EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	1276	((717/107,163) or (700/19,275)). CCLS.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/11/29 14:30
S2	1490	step adj module	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/29 14:08
S3	389	machine adj automation	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/29 14:09
S4	677450	control adj system	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/29 14:09
S5	677743	S3 S4	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/29 14:09
S6	242	S5 and S2	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/29 14:09
S7	1	S1 and S6	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/29 14:09
S8	3	S1 and S2	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/29 14:11

S9	5	S1 and S3	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/29 14:29
S10	1	("6477435").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/11/29 14:29
S11	3	(("5940296") or ("6298474") or ("6401220")).PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/11/29 15:07
S12	1	("20040267515").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/11/29 15:09
S13	1	("6226783").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/11/29 15:11
S14	1	("5933638").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/11/29 15:12
S15	1	("6999841").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/11/29 15:20
S16	0	"8263278".fref.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/29 15:20
S17	0	"8263278".frpn.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/29 15:21
S18	0	("8263278.frpn.").PN.	US-PGPUB; USPAT; USOCR; FPRS; JPO	OR	OFF	2006/11/29 15:20
S19	0	"8263278".frpn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/29 15:21

S20	0	jp8263278.frpn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/29 15:21
S21	0	jp8263278.fref.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/29 15:22
S22	1	1996-510156	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/29 15:22
S23	49	(US-20040215355-$ or US-20010052088-$ or US-20020046397-$ or US-20020054098-$ or US-20060047695-$ or US-20060259157-$ or US-20050066320-$ or US-20040059440-$ or US-20030110151-$ or US-20040153827-$ or US-20050138649-$ or US-20060130024-$).did. or (US-5524253-$ or US-6287765-$ or US-6006277-$ or US-6061602-$ or US-6243857-$ or US-6249882-$ or US-6880106-$ or US-6981226-$ or US-5255197-$ or US-5436730-$ or US-5860007-$ or US-7127303-$ or US-4918427-$ or US-4914612-$ or US-4926033-$ or US-5210140-$ or US-6082946-$ or US-6142073-$ or US-6186437-$ or US-4783718-$ or US-5517635-$ or US-5768632-$ or US-6651186-$ or US-6883163-$ or US-6981245-$ or US-6986132-$).did. or (US-7073168-$ or US-6185477-$ or US-3604701-$ or US-3681782-$ or US-4519491-$ or US-4631812-$ or US-4787496-$ or US-4965739-$ or US-5239476-$ or US-5340049-$ or US-5372330-$).did.	US-PGPUB; USPAT	OR	ON	2006/11/29 16:20

EAST Search History

S24	1279	((717/107,163) or (700/19,275)). CCLS.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/11/30 07:40
S25	1457	modul$2 near (assembl$3 link$3) same machine	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 07:56
S26	3	S24 and S25	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 07:53
S27	8	(US-20040267515-$).did. or (US-6477435-$ or US-6226783-$ or US-5933638-$ or US-6999841-$ or US-6061602-$ or US-5365606-$).did. or (JP-08263278-$).did.	US-PGPUB; USPAT; DERWENT	OR	ON	2006/11/30 12:34
S28	1	S25 and S27	US-PGPUB; USPAT; DERWENT	OR	ON	2006/11/30 07:56
S29	1	S25 and S27	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 07:56
S30	34806	modul$2 near (assembl$3 link$3)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 07:56
S31	2	S27 and S30	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 07:56
S32	0	wo95/04314.ptpn.	US-PGPUB; USPAT; DERWENT	OR	ON	2006/11/30 08:58
S33	0	wo95/04314.ptpn.	US-PGPUB; USPAT; EPO; DERWENT	OR	ON	2006/11/30 08:58

EAST Search History

S34	0	wo95/04314.ptpn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 09:11
S35	0	wo9504314.ptpn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 08:58
S36	36	"04314"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 08:58
S37	21	"711429"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 09:01
S38	752	blevins.in.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 09:01
S39	38	uniform and S38	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 09:01
S40	21	template and S38	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 09:01

EAST Search History

S41	2	S39 and S40	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 09:01
S42	28	("5594858").URPN.	USPAT	OR	ON	2006/11/30 09:03
S43	80433	module and machine and product	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 09:53
S44	223	S24 and S43	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 09:23
S45	20710	module same machine and product	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 09:54
S46	66	S24 and S45	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 09:54
S47	301	module with library same machine and product	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 09:56
S48	6	S24 and S47	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 09:54
S49	64	module with library same automation	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 12:16

EAST Search History

S50	3	S24 and S49	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 09:57
S51	3165	parameter same configuration same engine	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 12:19
S52	243	S24 and "49"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 12:16
S53	702	parameter same configuration same engine same input	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 12:17
S54	1	S24 and S53	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 12:18
S55	350	parameter same configuration same engine same module	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 12:17
S56	1	S24 and S55	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 12:17
S57	251	parameter same configuration same engine and automation	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 12:19

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EAST Search History

S58	2	S24 and S57	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 12:19
S59	1349	product adj parameter	US-PGPUB; USPAT; DERWENT	OR	ON	2006/11/30 12:36
S60	3	S24 and S59	US-PGPUB; USPAT; DERWENT	OR	ON	2006/11/30 12:34
S61	6967	product near2 parameter	US-PGPUB; USPAT; DERWENT	OR	ON	2006/11/30 12:36
S62	15	S24 and S61	US-PGPUB; USPAT; DERWENT	OR	ON	2006/11/30 12:36
S63	1	("20020073094").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/11/30 14:35
S64	21171	access near2 level	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 15:35
S65	44	S24 and S64	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 15:49
S66	4735	embed$4 near2 module	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 15:50
S67	13113	embed$4 near2 (module object)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/11/30 15:50

EAST Search History

| S68 | 42 | S24 and S67 | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/11/30 15:57 |
| S69 | 79 | method near inlining | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/11/30 15:57 |

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((machine \<sentence> automation \<and> module \<paragraph> library)\<in>metadata)   **Search**

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☐   1. **A human machine interface for distributed virtual laboratories**
Gertz, M.W.; Stewart, D.B.; Khosla, P.K.;
Robotics & Automation Magazine, IEEE
Volume 1, Issue 4, Dec. 1994 Page(s):5 - 13
Digital Object Identifier 10.1109/100.388265

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IEEE JNL	IEEE Journal or Magazine
IEE JNL	IEE Journal or Magazine
IEEE CNF	IEEE Conference Proceeding
IEE CNF	IEE Conference Proceeding
IEEE STD	IEEE Standard

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☐ 1. **OOONEIDA: an open, object-oriented knowledge economy for intelligent automation**
Vyatkin, V.V.; Christensen, J.H.; Lastra, J.L.M.;
Industrial Informatics, IEEE Transactions on
Volume 1, Issue 1, Feb. 2005 Page(s):4 - 17
Digital Object Identifier 10.1109/TII.2005.843829

AbstractPlus | References | Full Text: PDF(1672 KB)   IEEE JNL
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☐ 2. **A case study of fuzzy-logic-based robot navigation**
Valavanis, K.P.; Doitsidis, L.; Long, M.; Murphy, R.R.;
Robotics & Automation Magazine, IEEE
Volume 13, Issue 3, Sept. 2006 Page(s):93 - 107
Digital Object Identifier 10.1109/MRA.2006.1678143

AbstractPlus | Full Text: PDF(2787 KB)   IEEE JNL
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☐ 3. **STEP-NC and function blocks for interoperable manufacturing**
Xu, X.W.; Lihui Wang; Yiming Rong;
Automation Science and Engineering, IEEE Transactions on [see also Robotic Automation, IEEE Transactions on]
Volume 3, Issue 3, July 2006 Page(s):297 - 308
Digital Object Identifier 10.1109/TASE.2005.862147

AbstractPlus | Full Text: PDF(1008 KB)   IEEE JNL
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☐ 4. **Vertical migration of software functions and algorithms using enhanced microsequencing**
Papachristou, C.A.; Immaneni, V.R.;
Computers, IEEE Transactions on
Volume 42, Issue 1, Jan. 1993 Page(s):45 - 61
Digital Object Identifier 10.1109/12.192213

AbstractPlus | Full Text: PDF(1308 KB)   IEEE JNL
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☐ 5. **The UMC software environment for machine control system integration, c and programming**
Carrott, A.J.; Moore, P.R.; Weston, R.H.; Harrison, R.;

Set	Items	Description
S1	19509	MACHINE(1W)AUTOMATION OR AUTOMATION()(PROGRAM? ? OR SOFTWARE OR APPLICATION? ? OR CONTROL???? OR PROCEDURE? ?) OR MATERIAL? ?()HANDLING()CONTROL OR (AUTOMATED OR PROCESS OR INDUSTRIAL)()CONTROL
S2	33466	(PLANT OR FACTORY OR INSTRUMENT? ?)(3N)(AUTOMAT??? OR CONTROL????)
S3	7201	PROGRAMMABLE()LOGIC()CONTROLLER? ? OR PLC? ? OR PROCESS()AUTOMATION()CONTROL? ? OR PAC
S4	2193496	APPLICATION? ? OR PROGRAM? ? OR SOFTWARE OR ALGORITHM? ? OR PROCEDURE? ? OR CODE
S5	255575	S4(5N)(GENERAT? OR CREAT??? OR DEVELOP??? OR WRIT??? OR AUTHOR? OR CONSTRUCT? OR BUILD??? OR BUILT OR PRODUCE OR PRODUCES OR PRODUCTION OR FORM? ? OR FORMED OR FORMING OR FORMATION OR ASSEMBL? OR LINK??? OR COMBIN? OR JOIN???)
S6	70501	(LIBRARY OR LIBRARIES OR TABLE? ? OR DIRECTORY OR DIRECTORIES OR DATABASE? ? OR DATA()BASE? ? OR REPOSITOR???)(5N)(MODULE? ? OR OBJECT? ? OR FUNCTION? ? OR CLASS OR CLASSES OR APPLET? ? OR FILE? ? OR ALGORITHM? ? OR PROCEDURE? ? OR CODE OR PROGRAM? ?)
S7	77	S1 AND S5 AND S6
S8	39	S7 AND AC=US/PR AND AY=(1963:2003)/PR
S9	51	S7 AND AC=US AND AY=1963:2003
S10	51	S7 AND AC=US AND AY=(1963:2003)/PR
S11	63	S7 AND PY=1963:2003
S12	70	S8:S11
S13	70	IDPAT (sorted in duplicate/non-duplicate order)
S14	47	S2 AND S5 AND S6
S15	45	S3 AND S5 AND S6
S16	88	S14:S15
S17	78	S16 NOT S7
S18	17	S17 AND AC=US/PR AND AY=(1963:2003)/PR
S19	30	S17 AND AC=US AND AY=1963:2003
S20	30	S17 AND AC=US AND AY=(1963:2003)/PR
S21	66	S17 AND PY=1963:2003
S22	66	S18:S21

13/5/1   (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0007479441 - Drawing available
WPI ACC NO: 1996-090647/
XRPX Acc No: N1996-075939
 Process - control **support system for automatic design processor - has**
database **that performs** module **relation pattern of detail-design**
production **, automatic** program production **, and data test of secondary**
memory which are simultaneously shown at output unit using cathode-ray tube
Patent Assignee: SHIROISHI Y (SHIR-I)
Inventor: AOYAMA S; SHIRAISHI Y
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
JP 7302196	A	19951114	JP 1994113855	A	19940428	199610	B

Priority Applications (no., kind, date): JP 1994113855 A 19940428

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
JP 7302196	A	JA	17	12	

Alerting Abstract JP A
   The system has a secondary memory (7) that performs a detail-design
document **production** , an automatic **program generation** , and a design
database management which are simultaneously stored in a database (1) by
using a central processing unit (13). The **database** obtains **module**
relation pattern of the secondary memory which is shown to an output unit
(22) using a cathode-ray tube (14).
   ADVANTAGE - Reduces production time and mfg. cost by using data base that
automatically performs detail-design **production** , **program generation** ,
and data test.

Title Terms/Index Terms/Additional Words: PROCESS; CONTROL; SUPPORT; SYSTEM
   ; AUTOMATIC; DESIGN; PROCESSOR; DATABASE; PERFORMANCE; MODULE; RELATED;
   PATTERN; DETAIL; PRODUCE; PROGRAM; DATA; TEST; SECONDARY; MEMORY;
   SIMULTANEOUS; OUTPUT; UNIT; CATHODE; RAY; TUBE

Class Codes
International Classification (Main): G06F-009/06
 (Additional/Secondary): G05B-019/05, G06F-011/28

File Segment: EPI;
DWPI Class: T01
Manual Codes (EPI/S-X): T01-F06; T01-J20C

13/5/5   (Item 5 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0014621505 - Drawing available
WPI ACC NO: 2004-803493/
XRPX Acc No: N2004-633353
Modular system used in vehicle assembling system, has execution engine to
call machine automation procedure **and to maintain information flow in**
and out of minor step modules
Patent Assignee: MEIKLE AUTOMATION INC (MEIK-N); MILLS D (MILL-I); WAGNER
   N (WAGN-I)
Inventor: MILLS D; WAGNER N
Patent Family (2 patents, 2 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update

```
US 20040215355    A1   20041028   US 2003618800     A   20030714   200479   B
CA 2425719        A1   20041025   CA 2425719        A   20030425   200479   E
```

Priority Applications (no., kind, date): CA 2425719   A   20030425

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 20040215355	A1	EN	14	6	
CA 2425719	A1	EN			

Alerting Abstract US A1

NOVELTY - A **procedure creator creates machine automation
procedure** from an **assembly** of minor step modules. The input product
parameters and defined machine configuration are independent of the minor
step modules. An execution engine calls the **machine automation
procedure** and maintains the information flow in and out of the minor step
modules.

DESCRIPTION - INDEPENDENT CLAIMS are included for the following:

1.modular method for programming machine   automation   controls ; and

2.storage medium storing   machine   automation   control   program.

USE - For programming **machine automation control** system used in
industries such as vehicle **assembling** systems and fiber optic
applications .

ADVANTAGE - Assembles same product on a different assembly machine. The
development of automated system is simplified. Enables the **creation** of
procedure , executable in a choice of modes including real time, real time
with break points, simulation mode on stand alone computer. Allows process
engineers in control of manufacturing rather than burdening them with
software development, validation and testing. Product type manager
eliminates requirement to change the process to reflect a part tolerance
change.

DESCRIPTION OF DRAWINGS - The figure shows the flow diagram explaining
the modular procedure for programming **machine automation control** .

Title Terms/Index Terms/Additional Words: MODULE; SYSTEM; VEHICLE; ASSEMBLE
; EXECUTE; ENGINE; CALL; MACHINE; AUTOMATIC; PROCEDURE; MAINTAIN;
INFORMATION; FLOW; MINOR; STEP

Class Codes

International Classification (Main): G05B-013/02, G05B-019/042
 (Additional/Secondary): G05B-015/00
US Classification, Issued: 700028000

File Segment: EPI;
DWPI Class: T01; T06
Manual Codes (EPI/S-X): T01-F06; T01-J07B; T01-S03; T06-A05

 13/5/7   (Item 7 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0014309957 - Drawing available
WPI ACC NO: 2004-497094/
XRPX Acc No: N2004-392383
Programming and control system for process   control **of device e.g.
solenoid, has dynamic link library called from action and decision blocks
during run time, by external function module generating return values**
Patent Assignee: ENTIVITY INC (ENTI-N)
Inventor: BEHM J; GASIOREK J; HARKAWAY T; MCFARLAND M; MURALIDHAR K; REID L
 ; STEENSTRA J
Patent Family (1 patents, 1 countries)

```
Patent                           Application
Number          Kind  Date       Number          Kind   Date      Update
US 6754540      B1    20040622   US 2000624449   A     20000724   200447  B
```

Priority Applications (no., kind, date): US 2000624449   A   20000724

Patent Details
```
Number          Kind  Lan  Pg  Dwg  Filing Notes
US 6754540      B1    EN   10   9
```

Alerting Abstract US B1

NOVELTY - The system has a device e.g. solenoid, associated with a process e.g. machining. A flowcharting module **generates** and edits a source **code** with action and decision blocks which define logic for operating the device. A dynamic link library is called from the blocks during run time, by an external function module that receives input parameters and generates return values.

DESCRIPTION - An INDEPENDENT CLAIM is also included for a method for programming and controlling a device associated with a process.

USE - Used for controlling processes e.g. machining, drilling, welding, spraying paint, mixing materials, assembling parts, handling material, that involve devices e.g. solenoid, motor, valve, switch and other electrical and electromechanical device.

ADVANTAGE - The external **functions** e.g. dynamic link **library** , are loaded during run time only when they are needed, as a result they do not consume system memory until they are used. The external functions provide an open architecture for the system and allow third parties to incorporate algorithms, complex math functions and other application-specific functions to the flowcharting module.

DESCRIPTION OF DRAWINGS - The drawing shows a flowchart that is created using the flowchart-based programming and control system.

Title Terms/Index Terms/Additional Words: PROGRAM; CONTROL; SYSTEM; PROCESS ; DEVICE; SOLENOID; DYNAMIC; LINK; LIBRARY; CALL; ACTION; DECIDE; BLOCK; RUN; TIME; EXTERNAL; FUNCTION; MODULE; GENERATE; RETURN; VALUE

Class Codes
International Classification (Main): G05B-011/01
US Classification, Issued: 700018000, 717140000, 717157000, 717106000, 700083000, 700086000

File Segment: EPI;
DWPI Class: T01; T06
Manual Codes (EPI/S-X): T01-J08A; T01-J12; T01-J20B; T06-A06A

13/5/9   (Item 9 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2006 The Thomson Corporation. All rts. reserv.

0014112029 - Drawing available
WPI ACC NO: 2004-296356/200428
XRPX Acc No: N2004-235363
 Automated   control   software   writing **system for loading device-independent functionality for automation devices uses properties and functions of different automation systems and a runtime framework**
Patent Assignee: SIEMENS AG (SIEI)
Inventor: HELLER R; JACHMANN T; PORTNER N
Patent Family (4 patents, 28 countries)

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Patent                          Application
Number          Kind  Date       Number          Kind   Date      Update
DE 10242916     A1    20040325   DE 10242916     A     20020916   200428  B
WO 2004027608   A2    20040401   WO 2003DE2753   A     20030818   200431  E
EP 1570346      A2    20050907   EP 2003797171   A     20030818   200559  E
                                 WO 2003DE2753   A     20030818
```

US 20060142882   A1   20060629   WO 2003DE2753   A 20030818   200643   E
                                  US 2005527914   A 20050316

Priority Applications (no., kind, date): DE 10242916   A   20020916

Patent Details
Number	Kind	Lan	Pg	Dwg	Filing Notes
DE 10242916	A1	DE	7	2	
WO 2004027608	A2	DE			

National Designated States,Original: US
Regional Designated States,Original: AT BE BG CH CY CZ DE DK EE ES FI FR
   GB GR HU IE IT LU MC NL PT RO SE SI SK TR

| EP 1570346 | A2 | DE | | | PCT Application WO 2003DE2753 |
| | | | | | Based on OPI patent WO 2004027608 |

Regional Designated States,Original: AT BE BG CH CY CZ DE DK EE ES FI FR
   GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR

| US 20060142882 | A1 | EN | | | PCT Application WO 2003DE2753 |

Alerting Abstract DE A1
NOVELTY - Specific properties and functions of different automation
systems (61...6n) on current devices are made to match an automation
runtime layer (31-3n) directly by a system-specific adapter. A further
component, i.e. a runtime framework (4), implemented on a current device
makes general automation/basic functionality available.
   DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

1. A method for loading device-independent functionality for automation
   devices;

2. and for a programming language designed for automation for writing
   control software for a system and method for loading
   device-independent functionality for automation devices;

3. and for an automation device for masking specific functions and for
   loading basic functionality and/or automation functionality.

   USE - For **automation software writing** , e.g. **program** compilers.
   ADVANTAGE - An automation solution, correspondingly standardized and
written on an engineering system (2), can be randomly transferred without
depending on the different automation systems/target platforms. Use of
uniform **object libraries** (7) and re-use of solutions written just once
is possible without depending on the system.
   DESCRIPTION OF DRAWINGS - The drawing shows a diagram of a standard
framework for automation systems.
   2 Engineering system
   31...3n Automation runtime layer
   4 Runtime framework
   61...6n Different automation systems
   7 Uniform **object library**
   9 Data transfer device

Title **Terms**/Index Terms/Additional Words: AUTOMATIC; CONTROL; SOFTWARE;
   WRITING; SYSTEM; LOAD; DEVICE; INDEPENDENT; FUNCTION; PROPERTIES;
   FRAMEWORK

Class Codes
International Classification (Main): G06F-009/44
International Classification (+ Attributes)

IPC	+ Level	Value	Position	Status	Version
G05B-0015/00	A	I	F	B	20060101
G05B-0019/042	A	I		R	20060101
G05B-0019/42	A	I	L	B	20060101
G06F-0009/44	A	I		R	20060101
G05B-0019/04	C	I		R	20060101
G06F-0009/44	C	I		R	20060101

US Classification, Issued: 700087000, 700083000, 700086000

File Segment: EPI;
DWPI Class: T01
Manual Codes (EPI/S-X): T01-F05A

13/5/11   (Item 11 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0013918278 - Drawing available
WPI ACC NO: 2004-098038/
XRPX Acc No: N2004-078132
Supervisory process control **application development facility for guiding lower level control component e.g. PLC, has configuration utility with interface to derive customized application object template from generic templates**
Patent Assignee: WONDERWARE CORP (WOND-N)
Inventor: ERICKSON B; LEBLANC L G; MCINTYRE J P; MODY P H; RESNICK R M;
    SOWELL T
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
US 20030236576	A1	20031225	US 2002179763	A	20020624	200410	B

Priority Applications (no., kind, date): US 2002179763 A 20020624

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 20030236576	A1	EN	33	21	

   Alerting Abstract US A1 ·
   NOVELTY - The facility has a library to store generic and previously defined application object templates, and a configuration utility to specify instances of previously defined templates to be included in an application. Application objects (105,107) are instantiated from the selected previously defined templates. The utility has an interface to derive a customized child application object template from the generic templates.
   USE - Used in industrial **process control** network to provide guidance to lower level control components e.g. programmable logic controllers (PLCs).
   ADVANTAGE - The configuration utility enables customers to efficiently and quickly design customized applications with respect to customers particular need and to implement the same.
   DESCRIPTION OF DRAWINGS - The drawing shows a supervisory **process control** network with a multilayered supervisory **process control** and manufacturing information application.
      105,107 Application objects
      112,114 PLC1 and PLC2
      120 Configuration personal computer
      124 Configuration database
Title Terms/Index Terms/Additional Words: SUPERVISION; PROCESS; CONTROL;
   APPLY; DEVELOP; FACILITY; GUIDE; LOWER; LEVEL; COMPONENT; PLC;
   CONFIGURATION; UTILISE; INTERFACE; DERIVATIVE; CUSTOMISATION; OBJECT;
   TEMPLATE

Class Codes
International Classification (Main): G05B-015/02
 (Additional/Secondary): G05B-011/01, G05B-019/18, G05B-019/42, G06F-009/44
US Classification, Issued: 700009000, 700019000, 700018000, 700086000

File Segment: EPI;
DWPI Class: T01; T06
Manual Codes (EPI/S-X): T01-F05B2; T01-F06; T01-J07B1; T01-J20B; T06-A04B1;

13/5/12   (Item 12 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2006 The Thomson Corporation. All rts. reserv.

0013850226 - Drawing available
WPI ACC NO: 2004-028412/
XRPX Acc No: N2004-022679
Data processor design method, involves generating **object** program **for
data processor, using command selected for executing specific process in
specification described in C language**
Patent Assignee: PACIFIC DESIGN KK (PACI-N)
Inventor: FUJITA M; KITAJIMA T; SHIMOGOORI S; SUGIURA Y; YOSHIMURA M
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
JP 2003337838	A	20031128	JP 200319160	A	20030128	200403	B

Priority Applications (no., kind, date): JP 200269433   A 20020314

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
JP 2003337838	A	JA	20	8	

Alerting Abstract JP A
   NOVELTY - A command (41) to execute a specific process in a specification
(51) described in C language, is selected from a database (53), based on
command-related evaluation data (43) in the **database** . An **object
program** (57) for the data processor, is generated using the selected
command.
   DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

   1.compiler;

   2.data processor design- automation program ; and

   3.command database .

   USE - For designing data processor.
   ADVANTAGE - The suitable hardware information for designing the data
processor, is easily and automatically obtained using the object program.
   DESCRIPTION OF DRAWINGS - The figure shows a flow diagram explaining the
data processor design process. (Drawing includes non-English language
text).
   41 command
   43 command- related evaluation data
   51 specification
   53 database
   57 object program

Title Terms/Index Terms/Additional Words: DATA; PROCESSOR; DESIGN; METHOD;
   GENERATE; OBJECT; PROGRAM; COMMAND; SELECT; EXECUTE; SPECIFIC; PROCESS;
   SPECIFICATION; DESCRIBE; LANGUAGE

Class Codes
International Classification (Main): G06F-017/50

File Segment: EPI;
DWPI Class: T01; U11
Manual Codes (EPI/S-X): T01-J15; U11-G

13/5/13   (Item 13 from file: 350)

0013658525 - Drawing available
WPI ACC NO: 2003-754707/ **200371**
Related WPI Acc No: 1999-214447; 2001-498085; 2001-615813; 2001-647910;
  2001-662563; 2002-236176; 2002-518210; 2002-518240; 2002-617641;
  2002-642320; 2003-017430; 2003-211143; 2003-299130; 2006-098360;
  2006-511457; 2004-560305; 2006-527370
XRPX Acc No: N2003-604667
**Programmable hardware configuration method for multimedia device control,
involves utilizing hardware description of graphical program to configure
hardware element in instrument**
Patent Assignee: NAT INSTR CORP   (NAIN-N)
Inventor: ANDRADE H; BUTLER C P; KODOSKY J L; MIHAL A; ODOM B K
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
US 6608638	B1	20030819	US 2000499503	A	20000207	200371	B

Priority Applications (no., kind, date): US 2000499503 A 20000207

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 6608638	B1	EN	71	39	

Alerting Abstract US B1
   NOVELTY - A computer system in operated to estimate size and cost of one
or more hardware implementation of a graphical program, and to display the
estimation result to a user. A hardware description (304) of a portion of
program, is utilized to configure programmable hardware element to perform
measurement function of signal acquired from external source.
   DESCRIPTION - An INDEPENDENT CLAIM is also included for storage medium
storing programmable hardware configuring program.
   USE - For configuring programmable hardware such as field programmable
gate array (FPGA), complex programmable logic device (CPLD),
analog-to-digital converter, digital-to-analog converter, timer, counter
and clock used in industrial **automation   applications** and other
applications including control of multimedia device, video device, audio
device, telephone and Internet device. Also for word processing,
spreadsheet, network control and game applications.
   ADVANTAGE - Allows the user to efficiently develop or define desired
functionality using graphical programming techniques, while enabling the
resulting program to operate directly in hardware.
   DESCRIPTION OF DRAWINGS - The figure shows the flow diagram illustrating
the conversion of graphical program into hardware description and the use
of hardware description to program FPGA.
   300 graphical program data structures
   302 VDiagram tree
   304 hardware description
   340 FPGA-specific netlist
   342 **library** of pre-compiled **function** blocks
   344 hardware target specific information
   346 FPGA program file
   348 programmed FPGA

Title Terms/Index Terms/Additional Words: PROGRAM; HARDWARE; CONFIGURATION;
   METHOD; DEVICE; CONTROL; UTILISE; DESCRIBE; GRAPHICAL; ELEMENT;
   INSTRUMENT

Class Codes
International Classification (+ Attributes)

IPC + Level	Value	Position	Status	Version
G09G-0005/00	A	I	R	20060101
G09G-0005/00	C	I	R	20060101

US Classification, Issued: 345771000, 703022000

File Segment: EngPI; EPI;
DWPI Class: T01; P85
Manual Codes (EPI/S-X): T01-F06; T01-J20B; T01-S03

 13/5/14   (Item 14 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0013494997 - Drawing available
WPI ACC NO: 2003-587428/ **200355**
Related WPI Acc No: 2002-362436
XRPX Acc No: N2003-467787
**Object oriented framework for instantiating intelligent objects to process
sensing and/or control information has hardware, an application database
and a self-configuring application system receiving information from the
database**
Patent Assignee: LOCKHEED MARTIN CORP (LOCK)
Inventor: MATHUR C; RAPP J W
Patent Family (5 patents, 101 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
WO 2003062934	A1	20030731	WO 2003US950	A	20030113	200355	B
AU 2003209217	A1	20030902	AU 2003209217	A	20030113	200422	E
EP 1468339	A1	20041020	EP 2003707365	A	20030113	200469	E
			WO 2003US950	A	20030113		
KR 2004095208	A	20041112	KR 2004711187	A	20040719	200519	E
JP 2005516276	W	20050602	JP 2003562731	A	20030113	200541	E
			WO 2003US950	A	20030113		

Priority Applications (no., kind, date): US 200252744   A 20020118

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
WO 2003062934	A1	EN	53	12	

National Designated States,Original: AE AG AL AM AT AU AZ BA BB BG BR BY
   BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID
   IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ
   NO NZ OM PH PL PT RO RU SC SD SE SG SK SL TJ TM TN TR TT TZ UA UG US UZ
   VC VN YU ZA ZM ZW
Regional Designated States,Original: AT BE BG CH CY CZ DE DK EA EE ES FI
   FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NL OA PT SD SE SI SK SL SZ TR
   TZ UG ZM ZW

AU 2003209217	A1	EN			Based on OPI patent WO 2003062934
EP 1468339	A1	EN			PCT Application WO 2003US950
					Based on OPI patent WO 2003062934

Regional Designated States,Original: AL AT BE BG CH CY CZ DE DK EE ES FI
   FR GB GR HU IE IT LI LT LU LV MC MK NL PT RO SE SI SK TR

| JP 2005516276 | W | JA | 32 | | PCT Application WO 2003US950 |
| | | | | | Based on OPI patent   WO 2003062934 |

 Alerting Abstract WO A1
   NOVELTY - The hardware sub-system carries control and sensing signals and
the application database stores application service configuration
information corresponding to ways of processing the control and/or sensing
signals. The self-configuring application services system has a
configuration module coupled to the hardware sub-system and to the database
to retrieve the configuration information. An **Object   Database**
Management System (800) stores signal and/or service objects and
associations between these objects and sensing and/or control service
objects may be specified in the signal and/or application database. The
associations process information within corresponding event messages.
   DESCRIPTION - An INDEPENDENT CLAIM is included for a method of processing
electrical signals by receiving application service configuration

information associating a set of software objects with an electrical
signal, retrieving the software objects, retrieving interface configuration
information associating a second set of software objects with the signal
and automatically generating a hardware interface for managing
communications between the software objects and the hardware in accordance
with the configuration information.
   USE - In flight and other simulators, manufacturing automation,
industrial   control , oil refinery and other process monitoring and remote
sensing systems.
   ADVANTAGE - Provides a system for rapidly designing and implementing a
sensing and/or control system which maximizes system extensibility and
scalability.
   DESCRIPTION OF DRAWINGS - Figure 5 is a block drawing of an object
oriented framework architecture.
   800 **Object   Database** Management System

Title Terms/Index Terms/Additional Words: OBJECT; ORIENT; FRAMEWORK;
   INTELLIGENCE; PROCESS; SENSE; CONTROL; INFORMATION; HARDWARE; APPLY;
   DATABASE; SELF; SYSTEM; RECEIVE

Class Codes
International Classification (Main): G05B-019/042, G06F-009/44
  (Additional/Secondary): G06F-009/445

File Segment: EPI;
DWPI Class: T01; W05
Manual Codes (EPI/S-X): T01-F05B2; T01-J05B4C; T01-J05B4M; W05-D07

   13/5/19   (Item 19 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2006 The Thomson Corporation. All rts. reserv.

0013244058 - Drawing available
WPI ACC NO: 2003-329229/ **200331**
XRPX Acc No: N2003-263365
Automatic program   generator **for steel industry,** generates **source**
code **of each** application   program **, and corrects program specification**
based on input application program information
Patent Assignee: MITSUBISHI DENKI KK (MITQ); MITSUBISHI ELECTRIC CORP
   (MITQ)
Inventor: NAMITO M
Patent Family (2 patents, 2 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
US 20020199168	A1	20021226	US 200113452	A	20011213	200331	B
JP 2003005966	A	20030110	JP 2001191235	A	20010625	200331	E

Priority Applications (no., kind, date): JP 2001191235 A 20010625

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 20020199168	A1	EN	12	6	
JP 2003005966	A	JA	10		

   Alerting Abstract US A1
   NOVELTY - A program format input unit (42) inputs **application   program**
information of a **production   process   control** computer, in the form of
table. A **generation** unit (45) **generates** source **code** of each
application   program , and the **program** specification stored in a
database is corrected based on the input information.
   USE - For production process of steel industry.
   ADVANTAGE - High quality **application   program** can be **generated**
automatically independent of personal ability of designer or model of
process   control computer, and the design content can be described

correctly by the standard specification.
  DESCRIPTION OF DRAWINGS - The figure shows the block diagram of the
automatic **program   generator** .
  42 program format input unit
  45 generation unit

Title Terms/Index Terms/Additional Words: AUTOMATIC; PROGRAM; GENERATOR;
  STEEL; INDUSTRIAL; GENERATE; SOURCE; CODE; APPLY; CORRECT; SPECIFICATION;
  BASED; INPUT; INFORMATION

Class Codes
International Classification (Main): G06F-009/44
US Classification, Issued: 717107000

File Segment: EPI;
DWPI Class: T01
Manual Codes (EPI/S-X): T01-J07B; T01-J20B; T01-S03

  13/5/20   (Item 20 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0013068233 - Drawing available
WPI ACC NO: 2003-148232/
XRAM Acc No: C2003-038203
XRPX Acc No: N2003-117149
Source code   creation **apparatus for plant processing facilities,**
generates **final version of source** code **portion to be inserted into
program source code, using interactive help application**
Patent Assignee: DIETRICH K W (DIET-I); FOX G L (FOXG-I); JAMES D M
  (JAME-I)
Inventor: DIETRICH K W; FOX G L; JAMES D M
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
US 20020178434	A1	20021128	US 2001791010	A	20010222	200314	B

Priority Applications (no., kind, date): US 2001791010 A 20010222

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 20020178434	A1	EN	43	3	

  Alerting Abstract US A1
  NOVELTY - A **database** receives data comprising program variables and
data types input from an external data source. An interactive help
application coupled to the database utilizes the input data to **form
program** source **code** variables. A source **code   generator** coupled to
the **database   generates** a final version of the source code portion that
is then inserted into the **program** source **code** based on the **generated**
variables.
  DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

  1.source code portion creation ; and

  2.a process control system.

  USE - Used for **process control** systems in manufacture plants, chemical
plants, crude oil refineries and ore processing plants.
  ADVANTAGE - **The apparatus provides an easy and efficient way to create**
and maintain **applications** that access process data in a **process control**
 system and provides users with the ability to easily and efficiently
update and modify all previously generated source codes without affecting
any user **written user code** .
  DESCRIPTION OF DRAWINGS - The figure shows the automated source code

generation in **process control** environment.
Title Terms/Index Terms/Additional Words: SOURCE; CODE; CREATION; APPARATUS
   ; PLANT; PROCESS; FACILITY; GENERATE; FINAL; VERSION; PORTION; INSERT;
   PROGRAM; INTERACT; HELP; APPLY

Class Codes
International Classification (Main): G06F-009/44
US Classification, Issued: 717106000

File Segment: CPI; EPI
DWPI Class: H05; T01; T06
Manual Codes (EPI/S-X): T01-F05; T06-A04B
Manual Codes (CPI/A-M): H05-J

   13/5/21   (Item 21 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0013015594 - Drawing available
WPI ACC NO: 2003-094040/
Related WPI Acc No: 2003-094035; 2003-094038; 2003-094052; 2003-094053;
   2003-094061; 2003-094075; 2003-140845
XRPX Acc No: N2003-074480
Template-based supervisory process control **and manufacturing
information application development facility has** code **rendering utility**
generating **primitive components**
Patent Assignee: WONDERWARE CORP (WOND-N)
Inventor: ERICKSON B; LEBLANC L G; MCINTYRE J P; MODY P H; RESNICK R M;
   SOWELL T
Patent Family (2 patents, 20 countries)
Patent   Application
Number   Kind Date   Number   Kind Date   Update
WO 2003001343   A2   20030103 WO 2002US20191 A   20020624 200308 B
EP 1410204   A2   20040421 EP 2002746694   A   20020624 200427 E
                                WO 2002US20191 A   20020624

Priority Applications (no., kind, date): US 2001300157 P 20010622; US
   2001300363 P 20010622
Patent Details
Number   Kind Lan Pg Dwg Filing Notes
WO 2003001343   A2   EN   60   21
National Designated States,Original: DE
Regional Designated States,Original: AT BE CH CY DE DK ES FI FR GB GR IE
   IT LU MC NL PT SE TR
EP 1410204   A2   EN   PCT Application WO 2002US20191
                                        Based on OPI patent   WO 2003001343
Regional Designated States,Original: AT BE CH CY DE DK ES FI FR GB GR IE
   IT LI LU MC NL PT SE TR

   Alerting Abstract WO A2
   NOVELTY - Template-based supervisory **process control** and
manufacturing information application development facility comprises an
application **object** template **library** (AOTL) storing a set of previously
defined application object templates and a configuration utility specifying
instances of the set to be included in an application. The AOTL comprises a
set of generic application templates and the configuration utility has an
object template customisation interface for deriving a customised child
application object template from them. There is a toolkit for **developing**
new **application** templates and importing them into the library.
   USE - Template-based supervisory **process control** and manufacturing
information application development facility is for e.g. programmable logic
controllers in a **process control** network.
   ADVANTAGE - Facility enhances design productivity and enables re-use of
previously **developed application building** blocks.

DESCRIPTION OF DRAWINGS - The figure shows a supervisory **process control** network including a multilayered supervisory **process control** and manufacturing information application.

Title Terms/Index Terms/Additional Words: TEMPLATE; BASED; SUPERVISION; PROCESS; CONTROL; MANUFACTURE; INFORMATION; APPLY; DEVELOP; FACILITY; CODE; RENDER; UTILISE; GENERATE; PRIMITIVE; COMPONENT

Class Codes
International Classification (Main): G06F, G06F-009/54

File Segment: EPI;
DWPI Class: T01; T06
Manual Codes (EPI/S-X): T01-J07B1; T01-J20B1; T06-A04B1; T06-A04B7; T06-A07A; T06-A08

13/5/22   (Item 22 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0013011771   - Drawing available
WPI ACC NO: 2003-090043/ **200308**
Related WPI Acc No: 2003-353969; 2003-380566
XRPX Acc No: N2003-071069
Development tool for manufacturing equipment controlling computer, generates control program **by matching** program **fragments from** library **with phases of operation of respective equipment model**
Patent Assignee: ROCKWELL SOFTWARE INC (ROCK-N)
Inventor: HAVNER R A; RYAN S D; TOMAN J F; WHITEHEAD C J; YUEN K P
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
US 6477435	B1	20021105	US 1999404771	A	19990924	200308	B

Priority Applications (no., kind, date): US 1999404771 A 19990924

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 6477435	B1	EN	10	8	

Alerting Abstract US B1
NOVELTY - The tool has a program integration wizard which receives an area-model of a physical equipment to be controlled and phases of operation of the equipment, and a **library** with **program** fragments. The integration wizard **generates** a control **program** by matching the program fragments with the phases of operation so as to denote the control variables of all program fragments based on the hierarchy of the area-model.
DESCRIPTION - An INDEPENDENT CLAIM is included for a method of **creating** control **programs** .
USE - Development unit for **generating** control **programs** in special purpose computers for controlling processes of manufacturing equipment.
ADVANTAGE - Simplifies renaming of variables while preserving fundamental identity of the original control variables. The logical and automatic renaming of the variables of program fragments are unique within the context of the control program.
DESCRIPTION OF DRAWINGS - The figure shows a flowchart illustrating the operation of the program integration wizard.

Title Terms/Index Terms/Additional Words: DEVELOP; TOOL; MANUFACTURE; EQUIPMENT; CONTROL; COMPUTER; GENERATE; PROGRAM; MATCH; FRAGMENT; LIBRARY ; PHASE; OPERATE; RESPECTIVE; MODEL

Class Codes
International Classification (Main): G05B-019/42

US Classification, Issued: 700086000, 700182000

File Segment: EPI;
DWPI Class: T01; T06
Manual Codes (EPI/S-X): T01-J07B; T06-A04B5; T06-A07A; T06-A07B

13/5/23   (Item 23 from file: 350)

0012979554 - Drawing available
WPI ACC NO: 2003-057022/ **200305**
XRPX Acc No: N2003-044099
 **Industrial control system has computer memory which stores instancing
table that matches equipment types with relay ladder objects stored in
controller memory**
Patent Assignee: REPETE CORP (REPE-N)
Inventor: STINE D L
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
US 6466827	B1	20021015	US 1999121148	P	19990222	200305	B
			US 2000507058	A	20000221		

Priority Applications (no., kind, date): US 1999121148 P 19990222; US
  2000507058 A 20000221

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 6466827	B1	EN	10	9	Related to Provisional US 1999121148

 Alerting Abstract US B1
   NOVELTY - A programmable logic controller (PLC) has a memory (54) for
storing relay ladder objects (66) having rungs joining contacts and output
coils to provide intra-machine control relating operation of sensors and
actuators of an interconnected equipment. A computer memory stores an
instancing table that matches the equipment types with the ladder objects,
and program for logically coordinating operation of different
interconnected equipments.
   DESCRIPTION - An INDEPENDENT CLAIM is included for interconnect
industrial equipment operation control method.
   USE - Control system.
   ADVANTAGE - The PLC efficiently improves the reliability of the computer
to provide completely scalable control system. The relay ladder objects
determine the correct fault state for the device and make the necessary
level control signals to the device under fault condition.
   DESCRIPTION OF DRAWINGS - The figure shows an expanded functional block
diagram of the programmable logic controllers.
   54 Memory
   66 Relay ladder objects

Title Terms/Index Terms/Additional Words: INDUSTRIAL; CONTROL; SYSTEM;
  COMPUTER; MEMORY; STORAGE; TABLE; MATCH; EQUIPMENT; TYPE; RELAY; LADDER;
  OBJECT

Class Codes
International Classification (Main): G05B-019/42
 (Additional/Secondary): G05B-011/01
US Classification, Issued: 700018000, 700086000, 700103000

File Segment: EPI;
DWPI Class: T01; T06; U21
Manual Codes (EPI/S-X): T01-E02C; T06-A04B1; T06-A06A; U21-C01E

0012314580 - Drawing available
WPI ACC NO: 2002-256126/
XRPX Acc No: N2002-198123
Programming demonstration by automation using library of program
widgets
Patent Assignee: BENSON D C (BENS-I); MCDANIEL R G (MCDA-I); SCHILLER F D
  (SCHI-I); SCHOFIELD S M (SCHO-I); SIEMENS TECHNOLOGY TO BUSINESS CENT
  LLC (SIEI)
Inventor: BENSON D C; MCDANIEL R G; SCHILLER F D; SCHOFIELD S M
Patent Family (4 patents, 93 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
WO 2001067192	A2	20010913	WO 2001US7305	A	20010305	200230	B
AU 200149108	A	20010917	AU 200149108	A	20010305	200230	E
EP 1290509	A2	20030312	EP 2001922291	A	20010305	200320	E
			WO 2001US7305	A	20010305		
US 20040267515	A1	20041230	US 2000186969	P	20000306	200503	E
			US 2001809155	A	20010305		

Priority Applications (no., kind, date): US 2001809155 A 20010305; US
  2000186969 P 20000306; US 2001186969 A 20010305

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
WO 2001067192	A2	EN	40	10	

National Designated States,Original: AE AG AL AM AT AU AZ BA BB BG BR BY
  BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN
  IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ
  PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
Regional Designated States,Original: AT BE CH CY DE DK EA ES FI FR GB GH
  GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW
AU 200149108   A   EN   Based on OPI patent   WO 2001067192
EP 1290509   A2 EN   PCT Application WO 2001US7305
                                    Based on OPI patent   WO 2001067192
Regional Designated States,Original: AL AT BE CH CY DE DK ES FI FR GB GR
  IE IT LI LT·LU LV MC MK NL PT RO SE SI TR
US 20040267515   A1 EN   Related to Provisional US 2000186969

Alerting Abstract WO A2
   NOVELTY - A computer programming method involves providing a programming
by demonstration tool on a first computer platform used as both a control
program and a visual user interface for the control program. The
programming by demonstration tool includes a **library** of **program**
widgets, a graphical editor capable of enabling manipulation by a user of a
graphical representation of any of the program widgets and an interfacing
engine for recording and processing the manipulation operations to **produce**
 an executable **code** . An input/output module is provided interfacing with
the programming by demonstration tool for coupling the program widgets to
external input and output signals of the automation process.
   USE - For operating and monitoring automation processes and equipment.
   ADVANTAGE - Participation of manpower of multiple specialists is not
required.
   DESCRIPTION OF DRAWINGS - Drawing shows overall system architecture block
diagram.
     3 Widget library
     5 Inference engine
     7 External I/O
     9 Code compiler.

Title Terms/Index Terms/Additional Words: PROGRAM; DEMONSTRATE; AUTOMATIC;
  LIBRARY

Class Codes
International Classification (Main): G05B-019/042, G06F-009/45
 (Additional/Secondary): G05B-019/05
US Classification, Issued: 703022000

File Segment: EPI;
DWPI Class: T06
Manual Codes (EPI/S-X): T06-A04B1; T06-A07A; T06-A08

13/5/33   (Item 33 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2006 The Thomson Corporation. All rts. reserv.

0010899614 - Drawing available
WPI ACC NO: 2001-520336/
XRPX Acc No: N2001-385314
 Industrial   control **system employs general purpose computer that
performs execution of specific program** module **in the order of call** table
 for predictable real time control
Patent Assignee: ROCKWELL TECHNOLOGIES LLC (ROCW)
Inventor: BUVEL R L; CHANDLER S K; IZZO J P; SEARING L G; SHELVIK N S
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
US 6272388	B1	20010807	US 1998163106	A	19980929	200157	B

Priority Applications (no., kind, date): US 1998163106 A 19980929

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 6272388	B1	EN	7	5	

 Alerting Abstract US B1
  NOVELTY - A general purpose computer executes program including
sequentially executed program module and periodically executed program
modules (36,38,40). Periodically executed program modules with terminating
instruction (42), are repeatedly executed in order of call table (44) for
predictable real time control. Terminating jump instruction (48) at end of
call instructions cause repeated execution of table (44).
  DESCRIPTION - An INDEPENDENT CLAIM is also included for sequentially
executing real time program development method.
  USE - For controlling industrial processes or manufacturing equipments.
  ADVANTAGE - The call table provides a single and centralized way of
enabling or disabling modules of operating system. The program structure
allows repeated execution of program modules for predictable real time
control. Simplifies development of modules due to the elimination of need
for multiple flags by the use of a call table structure.
  DESCRIPTION OF DRAWINGS - The figure shows the schematic representation
of the operating system.
  36,38,40Program modules
  42Terminating instruction
  44Call table
  48Terminating jump instruction

Title Terms/Index Terms/Additional Words: INDUSTRIAL; CONTROL; SYSTEM;
  EMPLOY; GENERAL; PURPOSE; COMPUTER; PERFORMANCE; EXECUTE; SPECIFIC;
  PROGRAM; MODULE; ORDER; CALL; TABLE; PREDICT; REAL; TIME

Class Codes
International Classification (Main): G05B-019/42
US Classification, Issued: 700086000, 700023000, 700108000, 712241000

File Segment: EPI;

13/5/39   (Item 39 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2006 The Thomson Corporation. All rts. reserv.

0009612293 - Drawing available
WPI ACC NO: 1999-562229/ **199947**
XRPX Acc No: N1999-415364
Object oriented method of structuring software step program
Patent Assignee: ACUITY IMAGING LLC (ACUI-N)
Inventor: DZIEZANOWSKI J; LIMONDIN S
Patent Family (7 patents, 80 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
WO 1999048000	A1	19990923	WO 1998US16062	A	19980728	199947	B
AU 199886832	A	19991011	AU 199886832	A	19980728	200008	E
EP 1070289	A1	20010124	EP 1998938265	A	19980728	200107	E
			WO 1998US16062	A	19980728		
US 6226783	B1	20010501	US 199839653	A	19980316	200126	E
KR 2001041944	A	20010525	KR 2000710257	A	20000916	200168	E
AU 759260	B	20030410	AU 199886832	A	19980728	200337	E
JP 2004515826	W	20040527	WO 1998US16062	A	19980728	200435	E
			JP 2000537133	A	19980728		

Priority Applications (no., kind, date): US 199839653   A   19980316
Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
WO 1999048000	A1	EN	37	9	

National Designated States,Original: AL AM AT AU AZ BA BB BG BR BY CA CH
   CN CU CZ DE DK EE ES FI GB GE GH GM HU ID IL IS JP KE KG KP KR KZ LC LK
   LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ
   TM TR TT UA UG UZ VN YU ZW
Regional Designated States,Original: AT BE CH CY DE DK EA ES FI FR GB GH
   GM GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW

AU 199886832	A	EN			Based on OPI patent WO 1999048000
EP 1070289	A1	EN			PCT Application WO 1998US16062
					Based on OPI patent WO 1999048000

Regional Designated States,Original: AT BE CH CY DE DK ES FI FR GB GR IE
   IT LI LU MC NL PT SE

AU 759260	B	EN			Previously issued patent AU 9886832
					Based on OPI patent WO 1999048000
JP 2004515826	W	JA	59		PCT Application WO 1998US16062
					Based on OPI patent WO 1999048000

Alerting Abstract WO A1
   NOVELTY - The method involves defining several individual steps including
set of program objects, input accepted by the steps, operations performed
by the steps and output **generated** by the steps. Every step **program**
object included in the program is named. The step program objects are then
organized into a hierarchical tree structure.
   USE - For real time control of various manufacturing and **process
control** applications.
   ADVANTAGE - Simple vision applications can be very easily set up, while
ensuring that complex applications can also be readily configured. Provides
way to extend the programs by providing drop in functionality in the **form**
of language independent **software** components. Enables running the machine
vision computer programs unchanged on different CPU architectures.
   DESCRIPTION OF DRAWINGS - The figure shows the object oriented
inheritance hierarchy that supports step execution and data flow models.

Title Terms/Index Terms/Additional Words: OBJECT; ORIENT; METHOD; STRUCTURE

; SOFTWARE; STEP; PROGRAM

Class Codes
International Classification (Main): G06F-009/44, G06F-009/445, G06F-009/45
US Classification, Issued: 717001000, 717002000

File Segment: EPI;
DWPI Class: T01
Manual Codes (EPI/S-X): T01-F01B; T01-F05A; T01-F05B

 13/5/43   (Item 43 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2006 The Thomson Corporation. All rts. reserv.

0009501188   - Drawing available
WPI ACC NO: 1999-443737/199937
XRPX Acc No: N1999-330957
Application computer program creation method for automation and processing control in electronic technologies
Patent Assignee: CENCIK P (CENC-I)
Inventor: CENCIK P
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
US 5933638	A	19990803	US 1996628134	A	19960404	199937	B

Priority Applications (no., kind, date): US 1996628134 A 19960404

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 5933638	A	EN	28	17	

  Alerting Abstract US A
  NOVELTY - The properties for each object and cell included in the object evaluation matrix are defined by the use of choices of preset object and cell properties, respectively. The visual choices in a list format is presented to the human user, which determines a corresponding value for each of the object and cell properties.
  DESCRIPTION - Atleast one object is placed into the appropriate cells by the use of visual choices presented to a human user. The human user determines a corresponding value for each of the object and cell properties. The object properties include atleast one of a numeric value, pointer, variable name and string. The object having a function which occurs external computer system for controlling a process. An INDEPENDENT CLAIM is also included for a **process control** programming environment.
  USE - For **creation** of **application** computer **program** using object evaluation matrix in electronic technologies used in manufacture of integral elements such as programmable logic controllers, robot, machine vision, personal computer, computer numerical control machines and other computer controller machines used in fields of robotics, factory automation vision guidance, motion control, paint mixing etc.
  ADVANTAGE - Provides product that allows user to **create process control applications** without the limitations of having to use root-oriented tree-like logical structures, **generating** new **software code** to **create** desired **links** and evaluation logic, or using certain databases with preset fields and certain control logic. Allows user to **create process control** applications incorporating the desirable features of object oriented programming, worksheets and scanning similar to those used in programmable logic controllers without requiring the utilization of databases.
  DESCRIPTION OF DRAWINGS - The figure shows the flowchart depicting the logical operations required for executing application program.

Title Terms/Index Terms/Additional Words: APPLY; COMPUTER; PROGRAM;

CREATION; METHOD; AUTOMATIC; PROCESS; CONTROL; ELECTRONIC

Class Codes
International Classification (Main): G06F-009/44
 (Additional/Secondary): G06F-017/00
US Classification, Issued: 395704000, 395500000, 395672000, 707504000

File Segment: EPI;
DWPI Class: T01
Manual Codes (EPI/S-X): T01-F05; T01-J

13/5/44   (Item 44 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2006 The Thomson Corporation. All rts. reserv.

0009500239 - Drawing available
WPI ACC NO: 1999-442732/
Related WPI Acc No: 2002-556360
XRPX Acc No: N1999-330050
Industrial controller for factory automation   control
Patent Assignee: ALLEN BRADLEY CO LLC (ALLB)
Inventor: FLOOD M A
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
US 5912814	A	19990615	US 1997852710	A	19970507	199937	B

Priority Applications (no., kind, date): US 1997852710 A 19970507

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 5912814	A	EN	10	9	

Alerting Abstract US A
NOVELTY - An electronic memory (52) has user program describing control of process. A primary input-output data table (40a) holding output values of controlled processes. A processor executes the user **program** to **write** output values to input-output data **table** . At the end of the **program** , output values in **table** are transmitted to input-output data table (40b) of secondary controller.
DESCRIPTION - Only after completion of transfer to secondary controller, output values from input-output data table are transmitted for controlled process after transferring data from input-output table (40a) to the input-output data table (40b).
USE - For Factory **automation   control** .
ADVANTAGE - Improper updation controlled process is avoided by ensuring that data is fully secured by secondary controller. Time fragmentation of data at secondary controller is reduced by using input-output data tables.
DESCRIPTION OF DRAWINGS - The figure shows simplified diagram of primary and secondary controller showing sequence of data flow.
   40a,40b Input-output data tables
   52 Electronic memory

Title Terms/Index Terms/Additional Words: INDUSTRIAL; CONTROL; FACTORY; AUTOMATIC

Class Codes
International Classification (Main): G05B-011/01
 (Additional/Secondary): G01R-031/28, G06F-007/00, G11C-029/00
US Classification, Issued: 364131000, 364146000, 371011000, 395575000, 395600000

File Segment: EPI;
DWPI Class: T01; T06

13/5/68   (Item 68 from file: 347)
DIALOG(R)File 347:JAPIO
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01573403   **Image available**
 GENERATING METHOD OF **PROCESS   CONTROL   PROGRAM**

                              ABSTRACT
PURPOSE: To simplify a **generating** work of an OR operating **program** by
arranging an address of a main memory in which an input signal is stored,
in order of the input signal, generating a source memory address table,
etc., and storing them in the main memory.

CONSTITUTION: A source memory address table 31 is generated by arranging in
order input signals I1-I10 of an OR circuit, an output bit memory address
table 32 is generated by arranging O1 corresponding to I1, O2 corresponding
to I2,-, etc., a sub-output bit memory address table 33 is generated by
arranging SO1 corresponding to O1, SO2 corresponding to O2,-, and the
address of each table is stored as an address table 30 in a main memory. An
OR operating application program for executing a logical operation by using
this **table** is stored as a **program** memory in the main memory, and an OR
operation is executed.

22/5/6   (Item 6 from file: 347)

05373369   **Image available**
OBJECT **GENERATION** DEVICE FOR **PLC** **PROGRAM**

PUB. NO.:   08-328869 [JP 8328869 A]
PUBLISHED: December 13, 1996 (**19961213**)
INVENTOR(s):   MURANAKA KATSUMI
APPLICANT(s):   FUJI ELECTRIC CO LTD [000523] (A Japanese Company or
                Corporation), JP (Japan)
APPL. NO.:   07-131682 [JP 95131682]
FILED: May 30, 1995 (19950530)
INTL CLASS: [6] G06F-009/45; G05B-019/05; G06F-009/06
JAPIO CLASS: 45.1 (INFORMATION PROCESSING -- Arithmetic Sequence Units);
                22.3 (MACHINERY -- Control & Regulation)

ABSTRACT
PURPOSE: To shorten the time needed for generation of the object data by
omitting the unnecessary scan of the source data, the unnecessary
conversion of a TAG definition table and the unnecessary compiling
processing of the source data.

CONSTITUTION: When the compiling processing is instructed, the source data
31b and 31d having their time stamps discordant with that of a TAG
definition table 32 are scanned and the automatic TAG registration
processing is carried out. When no coincidence of time stamps is secured
between the **table** 32 and an intermediate **file** 33, the **table** 32 is
converted into the **file** 33. Then the data 31b and 31d having the time
stamps discordant with those of the object data 34b and 34d are compiled
based on the file 33. The time stamps of other source **files** 31a to 31c,
the **table** 32, the **file** 33 and the object files 34a to 34d are replaced,
so that they are coincident with the time stamp of the latest source data
31d.

22/5/10   (Item 10 from file: 347)

02752505   **Image available**
PROGRAM **GENERATING** DEVICE FOR **PLANT** MONITORING **CONTROLLER**

PUB. NO.:   01-050105 [JP 1050105 A]
PUBLISHED: February 27, 1989 (**19890227**)
INVENTOR(s):   KAWAGUCHI KOICHI
                SATO TETSUO
APPLICANT(s):   HITACHI LTD [000510] (A Japanese Company or Corporation), JP
                (Japan)
APPL. NO.:   62-207062 [JP 87207062]
FILED: August 20, 1987 (19870820)
INTL CLASS: [4] G05B-015/02; G05B-023/02; G06F-009/06
JAPIO CLASS: 22.3 (MACHINERY -- Control & Regulation); 24.1 (CHEMICAL
                ENGINEERING -- Fluid Transportation); 45.1 (INFORMATION
                PROCESSING -- Arithmetic Sequence Units)
JOURNAL: Section: P, Section No. 882, Vol. 13, No. 250, Pg. 164, June
                12, 1989 (19890612)

ABSTRACT
PURPOSE: To drastically reduce the input operation, and to remarkably
simplify the generating work by displaying a desired plant block diagram on
a picture plane at the time of generation, and designating directly a
control object such as a control valve and a pump, etc., by a pointing
device on the picture plane.

CONSTITUTION: The titled device is switched to a **program generation** mode by a keyboard 8, and also, No. of a desired plant block diagram and No. of a command list table are designated. As a result, the designated plant block diagram, the command list **table** and a **program generating table** are divided and displayed on display areas 31-33, respectively, of a display device 3. Subsequently, in case it is desired to start a pump, when START of a start command is designated from a touch panel 12, the command START is displayed on the area 33, and also, stored in a control **program generating table** 11. In this case, a display color on the figure of a startable apparatus, for instance, the pump, a blower, etc., is changed. Therefore, when the pump is designated, an actual pump name appears in the area 33. Thereafter, by repeating the same procedure, for instance, a sequence **program** is **generated** .

22/5/14   (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0013329443 - Drawing available
WPI ACC NO: 2003-416820/ **200339**
Related WPI Acc No: 2003-267237; 2003-330556; 2003-353495; 2003-362109;
  2004-267739; 2004-592021; 2006-108092; 2006-470129
XRPX Acc No: N2003-332272
Machine tool data capturing method e.g. for CNC tool, involves compiling predefined program code **to machine tool** library **and** linking **compiled** program code **to machine tool base code**
Patent Assignee: DIRNFELDNER R (DIRN-I); GREFF S (GREF-I); KAEVER M
  (KAEV-I); KREIDLER V (KREI-I); LAGIES K (LAGI-I); MUTSCHELLER W
  (MUTS-I); SIEMENS AG (SIEI)
Inventor: DIRNFELDNER R; GREFF S; KAEVER M; KREIDLER V; LAGIES K;
  MUTSCHELLER W
Patent Family (4 patents, 26 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
US 20030014498	A1	20030116	US 2001305199	P	20010713	200339	B
			US 2001950848	A	20010912		
WO 2003007092	A2	20030123	WO 2002EP7513	A	20020705	200339	E
EP 1410120	A2	20040421	EP 2002754841	A	20020705	200427	E
			WO 2002EP7513	A	20020705		
CN 1527961	A	20040908	CN 2002814109	A	20020705	200478	E

Priority Applications (no., kind, date): US 2001305199 P 20010713; US
  2001950848 A 20010912

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 20030014498	A1	EN	40	23	Related to Provisional US 2001305199
WO 2003007092	A2	EN			

National Designated States,Original: CN
Regional Designated States,Original: AT BE BG CH CY CZ DE DK EE ES FI FR
  GB GR IE IT LU MC NL PT SE SK TR
EP 1410120   A2 EN   PCT Application WO 2002EP7513
                                 Based on OPI patent   WO 2003007092
Regional Designated States,Original: AT BE BG CH CY CZ DE DK EE ES FI FR
  GB GR IE IT LI LU MC NL PT SE SK TR

Alerting Abstract US A1
  NOVELTY - An access to a program code received over a network such as internet is provided by a CNC machine tool, by compiling the **program code** to the machine tool **library** and **linking** the compiled **program code** to the machine tool base code. Based on the accessed program code, machine tool data is collected from the controller.
  USE - For capturing CNC/ **PLC** machine tool data.

ADVANTAGE - By compiling the predefined **program** **code** to machine tool **library** , the machine tool data can be effectively captured in real-time. Thereby, the customers are enabled to shorten development times, deliver maximum product quality and to establish market presence more quickly at favorable costs.

DESCRIPTION OF DRAWINGS - The figure shows the flowchart explaining the machine tool data capturing process.

Title Terms/Index Terms/Additional Words: MACHINE; TOOL; DATA; CAPTURE; METHOD; CNC; COMPILE; PREDEFINED; PROGRAM; CODE; LIBRARY; LINK; BASE

Class Codes
International Classification (+ Attributes)
IPC + Level Value Position Status Version

IPC	Level	Value	Position	Status	Version
G05B-0019/00	A	I		R	20060101
G05B-0019/4063	A	I		R	20060101
G05B-0019/408	A	I		R	20060101
G05B-0023/02	A	I		R	20060101
G06F-0015/16	A	I		R	20060101
G05B-0019/00	C	I		R	20060101
G05B-0019/406	C	I		R	20060101
G05B-0019/408	C	I		R	20060101
G05B-0023/02	C	I		R	20060101
G06F-0015/16	C	I		R	20060101

US Classification, Issued: 709217000

File Segment: EPI;
DWPI Class: T01; T06; W05; X25
Manual Codes (EPI/S-X): T01-J07B; T06-A04A2; T06-A04A4; T06-A07A; T06-A11; T06-D06; W05-D06E; W05-D07B; W05-D08C; X25-A03; X25-A03F

 22/5/35   (Item 24 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2006 The Thomson Corporation. All rts. reserv.

0010725010
WPI ACC NO: 2001-336575/ **200136**
XRPX ACC No: N2001-242971
Control program for a computer numerical control (CNC) machine tool has a modular widely applicable software structure
Patent Assignee: HEIDENHAIN GMBH JOHANNES (HEIJ)
Inventor: RUTKOWSKI C
Patent Family (5 patents, 27 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
DE 19949558	A1	20010419	DE 19949558	A	19991014	200136	B
WO 2001027703	A2	20010419	WO 2000EP10042	A	20001012	200136	E
EP 1224512	A2	20020724	EP 2000972743	A	20001012	200256	E
			WO 2000EP10042	A	20001012		
JP 2003511779	W	20030325	WO 2000EP10042	A	20001012	200330	E
			JP 2001530654	A	20001012		
US 6999841	B1	20060214	WO 2000EP10042	A	20001012	200613	E
			US 2003110587	A	20030306		

Priority Applications (no., kind, date): DE 19949558 A 19991014
Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
DE 19949558	A1	DE	7	1	
WO 2001027703	A2	DE			

National Designated States,Original: JP US
Regional Designated States,Original: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

Number	Kind	Lan		
EP 1224512	A2	DE	PCT Application WO 2000EP10042	
			Based on OPI patent WO 2001027703	

Regional Designated States,Original: AL AT BE CH CY DE DK ES FI FR GB GR
   IE IT LI LT LU LV MC MK NL PT RO SE SI
JP 2003511779   W JA   23   PCT Application WO 2000EP10042
                                    Based on OPI patent WO 2001027703
US 6999841   B1 EN   PCT Application WO 2000EP10042
                                    Based on OPI patent WO 2001027703

   Alerting Abstract DE A1
   NOVELTY - The flexibility of CNC controlled machine tools is provided by
a control program organized on a modular base. The software has different
framework classes ,such as man machine interface,geometry
processing,interpolation. The modules are formed in an object oriented form
with links to communication channels.
   USE - Machine tool control.
   ADVANTAGE - Software with more than one use.

Title Terms/Index Terms/Additional Words: CONTROL; PROGRAM; COMPUTER;
   NUMERIC; CNC; MACHINE; TOOL; MODULE; WIDE; APPLY; SOFTWARE; STRUCTURE

Class Codes
International Classification (Main): G05B-019/408, G05B-019/4093
International Classification (+ Attributes)
IPC + Level Value Position Status Version
   G06F-0019/00 A I F B 20060101
US Classification, Issued: 700181000, 700182000, 700162000

File Segment: EPI;
DWPI Class: T06
Manual Codes (EPI/S-X): T06-A04A4

   22/5/44   (Item 33 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0009289529 - Drawing available
WPI ACC NO: 1999-219546/ **199919**
XRPX Acc No: N1999-162384
Control data processing method using BASIC interpreter for programmable
logic controllers (PLC) - **involves** developing **control** program
using arbitrary language on PC, executing it using BASIC interpreter by
writing **declaration statement for** linking **control** program **with BASIC
interpreter**
Patent Assignee: OMRON KK (OMRO)
Inventor: BRIAN G; OTANI S; TIM V
Patent Family (2 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
JP 11053198	A	19990226	JP 1997210384	A	19970805	199919	B
JP 3674936	B2	20050727	JP 1997210384	A	19970805	200549	E

Priority Applications (no., kind, date): JP 1997210384 A 19970805

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
JP 11053198	A	JA	9	11	
JP 3674936	B2	JA	13		Previously issued patent JP 11053198

   Alerting Abstract JP A
   NOVELTY - A control **program   developed** in an arbitrary language on a
PC (200) is loaded on the processor (10). A declaration statement showing
the **link** relationship with control **program** is **written** in BASIC by a
BASIC interpreter and the loaded control program is executed. Transfer of
data between BASIC interpreter and **library   program** is performed using

stack memory area in the system. DETAILED DESCRIPTION - An INDEPENDENT
CLAIM is included for the control data processing apparatus.
   USE - For **programmable logic controller** (**PLC**) using personal
computer utilizing BASIC interpreter.
   ADVANTAGE - Enables usage of widely used BASIC interpreter for control
process. Avoids machine dependency and thereby offers easier and simpler
development process of control programs.Avoids necessity of monitor
function for debugging. DESCRIPTION OF DRAWING(S) - The diagram shows the
block diagram of a **PLC** system using the data processing method. (10)
Processor; (200) PC.

Title Terms/Index Terms/Additional Words: CONTROL; DATA; PROCESS; METHOD;
   BASIC; INTERPRETATION; PROGRAM; LOGIC; **PLC** ; DEVELOP; ARBITRARY;
   LANGUAGE; EXECUTE; WRITING; STATEMENT; LINK

Class Codes
International Classification (Main): G06F-009/45

File Segment: EPI;
DWPI Class: T01
Manual Codes (EPI/S-X): T01-F05A

 22/5/50   (Item 39 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2006 The Thomson Corporation. All rts. reserv.

0007878620 - Drawing available
WPI ACC NO: 1996-510156/
XRPX Acc No: N1996-430026
Control-program prodn. appts. for control **program of** factory **line - has
several** program **components** generated **by** program generator **based on
contents of line and event description tables to perform processing
corresp. to each constructor of factory line**
Patent Assignee: SUMITOMO METAL IND LTD (SUMQ)
Inventor: HORI A
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
JP 8263278	A	19961011	JP 199567660	A	19950327	199651	B

Priority Applications (no., kind, date): JP 199567660   A   19950327 .

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
JP 8263278	A	JA	9	13	

   Alerting Abstract JP A
   The appts. has a line description table (117) to which the user inputs
the settings such as length of line and order of zone. The user performs
processing based on the event data included in an event-description **table**
(119). A **program** generator (111) **generates** a **program** component from a
 class library based on the contents of the line and event description
tables.
   The program components are connected to perform processing corresp. to
each constructor of the factory line. The connected **program** components
produces the **control program** of the **factory** line.
   ADVANTAGE - Shortens work-hours since operator does operation without
need of knowing detailed specification of **program** component. Improves
efficiency of **program production** due to shortened work-hours. **Produces**
 efficient **program** counter since event data can be processed. Improves
efficiency of work prodn. since line data expressed as object figure can be
edited.

Title Terms/Index Terms/Additional Words: CONTROL; PROGRAM; PRODUCE;

APPARATUS; FACTORY; LINE; COMPONENT; GENERATE; GENERATOR; BASED; CONTENT;
EVENT; DESCRIBE; TABLE; PERFORMANCE; PROCESS; CORRESPOND; CONSTRUCTION

Class Codes
International Classification (Main): G06F-009/06
 (Additional/Secondary): G05B-015/02

File Segment: EPI;
DWPI Class: T01; T06
Manual Codes (EPI/S-X): T01-F06; T01-F07; T01-J20A; T06-A07

22/5/57 **(Item 46 from file: 350)**
DIALOG(R)File 350:Derwent WPIX
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0006537717 - Drawing available
WPI ACC NO: 1993-347267/
XRPX Acc No: N1993-268286
Information managing appts. for factory **or office** automation - includes
**application program interface for operating with software kit interface and
to provide coordination with application kits with no modification of
memory**
Patent Assignee: NISSAN MOTOR CO LTD (NSMO)
Inventor: ABE K; KOYANAGI H; NISHIYAMA T; NODA T; NOMARU M; YAMAZAKI T
Patent Family (2 patents, 2 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
GB 2266982	A	19931117	GB 199310002	A	19930514	199344	B
US 5404530	A	19950404	US 199360122	A	19930512	199519	E

Priority Applications (no., kind, date): JP 1992123424 A 19920515; JP
  1992123423 A 19920515; JP 1992123422 A 19920515

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
GB 2266982	A	EN	52	19	
US 5404530	A	EN	26	19	

Alerting Abstract GB A
   The information managing apparatus has memories for storing application
software kits (1,2) including no decision process and no data storage
process. The application kits are each defined only by an elementary
execution routine. A software kit interface (3) is provided by constructing
the kits independently of hardware and operating system. The software kit
interface includes a **library** of **functions** for storing and processing a
flow of the constructed kits.
   The apparatus also includes a BASE section (4) for integrally managing
temporary storage and processing of information shared by the application
kits, an operating system interface (5) for supplying a function group to
operate the kits and the BASE section while completely separating the kits
from the hardware and the operating system, and an application program
interface (6) for operating with the software kit interface (3) and an
existing application program (10) to provide co-ordination with the kits
with no modification of a stored working sequence operable only with a
specified operating system.
   ADVANTAGE - For operating computer terminals and working robot. Provides
multivendor environment where user can prepare programs, independent of
operating computer used with computer.

Equivalent Alerting Abstract US A
   The system has storage storing numerous application kits, each of which
is defined by an execution element routine having an input register segment
for registering input data, a processing segment and an output register
segment for registering output data. The processing segment processes the

input data to produce the output data. An input inputs a selected kind of data selected from various kinds of data. A detection circuit detects the kind of the input data.

A software kit interface selects a group of application kits from the numerous application kits. The input register segments of the selected group of application kits are coupled in parallel and the output register segments of the selected group of application kits are coupled in parallel. This is based on the detected kind of the input data. An output outputs the output data from the software kit interface.

ADVANTAGE - Gives operating system independent multivendor environment. Allows user to construct automation system.

Title Terms/Index Terms/Additional Words: INFORMATION; MANAGE; APPARATUS; FACTORY; OFFICE; AUTOMATIC; APPLY; PROGRAM; INTERFACE; OPERATE; SOFTWARE; KIT; COORDINATE; NO; MODIFIED; MEMORY
Class Codes
International Classification (Main): G06F-013/00, G06F-009/44
US Classification, Issued: 395700000, 364DIG

File Segment: EPI;
DWPI Class: T01
Manual Codes (EPI/S-X): T01-F05; T01-J05A

22/5/61   (Item 50 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2006 The Thomson Corporation. All rts. reserv.

0005936403 - Drawing available
WPI ACC NO: 1992-167337/ **199220**
XRPX Acc No: N1992-124874
Object-oriented architecture for development of software systems - comprises interface server with application service, data base service, relational data base and communication manager
Patent Assignee: CONSILIUM INC (CONS-N)
Inventor: HESS R L; LOZIER B A; MASHRUWALA R; MASHRUWALA R U; TANTRY S; TANTRY S B
Patent Family (8 patents, 44 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
WO 1992007331	A1	19920430	WO 1991US7671	A	19911015	199220	B
AU 199190303	A	19920520	AU 199190303	A	19911015	199233	E
			WO 1991US7671	A	19911015		
EP 553285	A1	19930804	EP 1991920578	A	19911015	199331	E
			WO 1991US7671	A	19911015		
US 5398336	A	19950314	US 1990598078	A	19901016	199516	E
			US 199393307	A	19930716		
EP 553285	A4	19931110	EP 1991920067	A	19911017	199528	E
US 5548756	A	19960820	US 1990598078	A	19901016	199639	E
			US 199393307	A	19930716		
			US 1995401633	A	19950309		
EP 553285	B1	20000301	EP 1991920578	A	19911015	200016	E
			WO 1991US7671	A	19911015		
DE 69132012	E	20000406	DE 69132012	A	19911015	200024	E
			EP 1991920578	A	19911015		
			WO 1991US7671	A	19911015		

Priority Applications (no., kind, date): US 1995401633 A 19950309; US 199393307 A 19930716; US 1990598078 A 19901016

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
WO 1992007331	A1	EN	52	10	

National Designated States,Original: AT AU BB BG BR CA CH DE DK ES FI GB HU JP KP KR LK LU MC MG MW NL NO PL RO SD SE SU

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Regional Designated States,Original:  AT BE BF BJ CF CG CH CI CM DE DK ES
   FR GA GB GN GR IT LU ML MR NL SE SN TD TG
AU 199190303      A   EN              PCT Application  WO 1991US7671
                                      Based on OPI patent    WO 1992007331
EP 553285         A1  EN·   2    1    PCT Application  WO 1991US7671
                                      Based on OPI patent    WO 1992007331
Regional Designated States,Original:  DE FR
US 5398336        A   EN    20   10   Continuation of application   US
   1990598078
EP 553285         A4  EN
US 5548756        A   EN    19   10   Continuation of application   US
   1990598078
                                      Continuation of application   US
   199393307
                                      Continuation of patent  US 5398336
EP 553285         B1  EN              PCT Application  WO 1991US7671
                                      Based on OPI patent    WO 1992007331
Regional Designated States,Original:  DE FR
DE 69132012       E   DE              Application  EP 1991920578
                                      PCT Application  WO 1991US7671
                                      Based on OPI patent    EP 553285
                                      Based on OPI patent    WO 1992007331
```

Alerting Abstract WO A1

The system includes an interface server for allowing user interaction events and for producing application service requests. The application service processes the requests and retrieves, manipulates and updates data from relational database.

The database service provides access to the relational database following response from application service requests. A communication manager coordinates interprocess communication between application engine, application service and database service.

USE/ADVANTAGE - For factory floor management of e.g. multi-engine aircraft or VLSI microprocessor mfg. capable of tracking, monitoring and **controlling** all aspects of **factory** environment. Produces savings in terms of performance.

Equivalent Alerting Abstract US A

The object-oriented architecture has factory floor entities modelled as factory **objects** within a relational **database** . The architecture includes X-terminal or bar code devices for facilitating user interaction with the system via one or more of the factory floor entities; Application Engines for processing user interaction of events and **generating application** service requests; and **Application** servers for processing the **application** service requests and **generating** database service requests in response. These database service requests are utilized to retrieve, manipulate and update data stored within the relational database. Communication Managers are employed for coordinating interprocess communication between the Application Engines, the Application Servers, and the Database Servers. Each of these major components are distributed among computer resources that are networked across the factory floor.

Title Terms/Index Terms/Additional Words: OBJECT; ORIENT; ARCHITECTURE; DEVELOP; SOFTWARE; SYSTEM; COMPRISE; INTERFACE; SERVE; APPLY; SERVICE; DATA; BASE; RELATED; COMMUNICATE; MANAGE

16/5/3 (Item 3 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

09005758 E.I. No: EIP02066856561
Title: **A methodology for specification and development of control code in industrial DCS application**
Author: Atlagic, Branislav; Mihic, Velibor; Maruna, Tomislav
Corporate Source: Faculty of Technical Sciences, 21000 Novi Sad, Yugoslavia
Conference Title: 14th International Conference on Systems Science
Conference Location: Wroclaw, Poland Conference Date: 20010911-20010914
E.I. Conference No.: 58991
Source: Proceedings of the International Conference on Systems Science v 2 2001. p 77-84
Publication Year: 2001
Language: English
Document Type: CA; (Conference Article) Treatment: T; (Theoretical)
Journal Announcement: 0202W3

Abstract: The paper describes application software development methodology developed for a PC based control system. It is oriented to complex industrial applications demanding distributed architecture and extensive batch control. A solution is found in the fieldbus connection to the field devices on the factory floor and a specific application software organization and development environment. This is an attempt to combine advantages of widely accepted **PLC** standards (IEC 61131-3 and ISA S-88) with the modern programming approach brought by the information technologies. Application code development process is facilitated by a special programming tool that integrates SFC graphical editor, C **code generator** and a specific **code** editor with the process **database** browser. The basis for the software design is a process configuration model that is on a substantially higher level, compared to the traditional **PLC** - based solutions. Resulting program code is simple, reliable, readable and easy to maintain. Open PC platform and Windows NT/2000 operating system ensures easy integration of the control system to the enterprise information system. 5 Refs.
Descriptors: *Distributed parameter control systems; Process control; Industrial plants; Management information systems; Software engineering; **Programmable logic controllers** ; Open systems
Identifiers: Application software development; Batch control; Application code design
Classification Codes:
731.1 (Control Systems); 731.2 (Control System Applications); 402.1 (Industrial & Agricultural Buildings); 723.2 (Data Processing); 723.1 (Computer Programming); 732.1 (Control Equipment)
731 (Automatic Control Principles & Applications); 402 (Buildings & Towers); 723 (Computer Software, Data Handling & Applications); 732 (Control Devices)
73 (CONTROL ENGINEERING); 40 (CIVIL ENGINEERING, GENERAL); 72 (COMPUTERS & DATA PROCESSING)

16/5/6 (Item 6 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

07697095 E.I. No: EIP97053656482
Title: **Environment for object-oriented real-time systems design**
Author: Van de Weg, R.; Engmann, R.; van de Hoef, R.; ten Thij, V.
Corporate Source: Univ of Twente, Enschede, Neth
Conference Title: Proceedings of the 1997 8th Conference on Software Engineering Environments, SEE 97
Conference Location: Cottbus, Ger Conference Date: 19970408-19970409
E.I. Conference No.: 46336
Source: Proceedings of the Conference on Software Engineering

Environments 1997. IEEE, Los Alamitos, CA, USA. p 23-33

   Abstract: A concise object-oriented method for the development of
real-time systems has been composed. Hardware components are modelled by
(software) base objects; base objects are controlled by a hierarchy of
coordinator objects, expressed in an organizational diagram. The behaviour
of objects is specified by state transition diagrams. This approach
considerably promotes requirements analysis and communication with the
customer. A CASE tool has been constructed with diagram editors for
graphical specifications of real-time systems. The tool can **generate**
executable **code** for **PLCs** from these graphical specifications; reuse of
previous results is supported by the **repository   function** of the tool.
Experiences attained in practice with method and tool show that time spent
in system testing and installation is reduced considerably. (Author
abstract) 16 Refs.
   Descriptors: *Object oriented programming; Real time systems; Computer
aided logic design; Computer hardware; Computer simulation; Computer aided
software engineering; Computer graphics
   Identifiers: Computer environment
   Classification Codes:
   723.1 (Computer Programming); 722.4 (Digital Computers & Systems);
723.5 (Computer Applications)
   723 (Computer Software); 722 (Computer Hardware)
   72 (COMPUTERS & DATA PROCESSING)

   16/5/7   (Item 7 from file: 8)

07578492   E.I. No: EIP96123470938
   Title: Software aspects of PLCs **application in robotic workcells**
   Author: Boczkaj, Boleslaw F.
   Conference   Title: Conference   Record   of   the   1996   IEEE Industry
Applications 31th IAS Annual Meeting. Part 3 (of 4)
   Conference   Location: San   Diego,   CA,   USA   Conference   Date:
19961006-19961010
   Sponsor: IEEE
   E.I. Conference No.: 45752
   Source: Conference   Record   -   IAS   Annual   Meeting   (IEEE Industry
Applications Society) v 3 1996. IEEE, Piscataway, NJ, USA,96CH35977. p
1575-1581
   Abstract: The subject of control system design is usually approached from
two distinct perspectives: development of general principles such as
mathematically or experimentally derived theory and case studies which
describe instances of specific applications in practice. This paper fills
the gap between the two approaches for a particular topic, application of
PLCS to robotic workcells. Specifically, the subject of interest is
organization of **PLC** program. Robotic workcells are custom build. Despite
that, it is possible to discern common physical features and operating
characteristics among robotic workcells. As a good design practice, these
common traits are used, on an individual device or axis of motion basis, to
generate typical portion of code. Similarly, on equipment, workcell or
global level, typical organization of **code** is **developed** with

standardized **program** format, order and naming conventions. A **library** of
 code segments can be **developed** for specific sensors, actuators, axis of
motion arrangements, robot and workcell configurations. This library can
then be used for mix and match software development without sacrificing
flexibility to customize or refine programs. Since the structure of code is
standardized and known ahead, the benefits of this approach extend beyond
the code development stage to the program debugging and the life of product
maintenance and repair troubleshooting of equipment. (Author abstract) 47
Refs.
   Descriptors: *Industrial robots; **Programmable logic controllers** ;
Computer software; Program debugging; Sensors; Actuators; Manipulators; End
effectors; Grippers
   Identifiers: Industrialized personal computer; Dedicated robot controller
; Robotic workcells
   Classification Codes:
   731.6 (Robot Applications); 732.1 (Control Equipment); 723.5 (Computer
Applications); 723.1 (Computer Programming); 732.2 (Control
Instrumentation); 731.5 (Robotics)
   731 (Automatic Control Principles); 732 (Control Devices); 723
(Computer Software)
   73 (CONTROL ENGINEERING); 72 (COMPUTERS & DATA PROCESSING)

16/5/9   (Item 9 from file: 8)
DIALOG(R)File   8:Ei Compendex(R)
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07541434   E.I. No: EIP96100382601
   Title: **Implementing reusable, instrument independent test programs in the
factory**
   Author: Neblett, Bill
   Corporate Source: Texas Instruments Inc, Lewisville, TX, USA
   Conference Title: Proceedings of the AUTOTESTCON'96 Conference
   Conference Location: Dayton, OH, USA   Conference Date: 19960916-19960919
   Sponsor: IEEE
   E.I. Conference No.: 45491
   Source: AUTOTESTCON (Proceedings) 1996.,96CH35955. p 206-212
   Publication Year: 1996
   CODEN: AUPRDX
   Language: English
   Document Type: CA; (Conference Article). Treatment: A; (Applications); G
; (General Review)
   Journal Announcement: 9612W4
   Abstract: Development of computer programs that control test sequences on
Automatic Test Equipment (ATE) is costly and time consuming. Test Programs
are usually written by specifying the instruments to be used in the ATE and
the sequence of the setup and measurement parameters for these Instruments.
Reuse of test program software on other ATE is usually not possible without
rewriting, revalidating and re-releasing the programs. This paper describes
an implementation of a test program software development system and a
standard software runtime architecture used in our factories. The object
oriented development environment and its associated **class libraries**
allow test **programs** to be **written** without knowledge of the ATE on which
they will be run. Two main principles guided the design: the software
architecture was based on recognized formal and industry standards, and our
implementation used commercial off-the-shelf software products when
possible. Emerging standards such as the IEEE-1226 (ABBET) as well as de
facto industry standards including VXI Plug and Play have made our
implementation possible. The current draft of the ABBET and P&P standards
do not promote this instrument independence, but it is hoped that this will
be added as the standards mature. Three immediate benefits are: cost
savings that result from reusing validated test programs, cycle time
reductions that result from concurrently developing test program software
and ATE, and software defect reductions that result from using proven
software. (Author abstract) 10 Refs.

Descriptors: ***Factory automation** ; **Automatic** testing; Computer software; Computer architecture; Object oriented programming; Standards
   Identifiers: Automatic test equipment (ATE); Test programs
   Classification Codes:
   913.4.2 (Computer Aided Manufacturing)
   913.4 (Manufacturing); 723.1 (Computer Programming); 902.2 (Codes & Standards)
   913 (Production Planning & Control); 723 (Computer Software); 722 (Computer Hardware); 902 (Engineering Graphics & Standards)
   · 91 (ENGINEERING MANAGEMENT); 72 (COMPUTERS & DATA PROCESSING); 90 (GENERAL ENGINEERING)

   16/5/10   (Item 10 from file: 8)

07495407   E.I. No: EIP96093331995
   Title: Integration of automated process planning system with CAM software
   Author: Sormaz, Dusan N.; Khoshnevis, Behrokh; Han, Junghyun
   Corporate Source: Ohio Univ, Athens, OH, USA
   Conference Title: Proceedings of the 1996 24th NAMRC Conference
   Conference   Location: Ann   Arbor,   MI,   USA   Conference   Date: 19960521-19960523
   E.I. Conference No.: 45295
   Source: Technical Paper - Society of Manufacturing Engineers. MS 1996. 6p
   Publication Year: 1996
   CODEN: TPSSDL   ISSN: 0161-6382
   Language: English
   Document Type: UP; (Unpublished Preprint)   Treatment: G; (General Review)
   Journal Announcement: 9611w1
   Abstract: This paper describes the results of a research project that was devoted to the integration of an automated process planning system with a CAM. The project consisted of two main parts: feature recognition and process planning. An approach based on inter-process communication has been adopted for feature recognition. For process planning the **object** -oriented **database** of the CAM system has been used and the **algorithm** has been **built** within the CAM system. Several issues that arise in manufacturing software integration have been addressed. These issues include: how to provide a geometric model for process planning, how to build an interface between modules (e.g., feature interface), how to implement manufacturing knowledge within an object database, and how to generate and maintain alternative process plans. This paper reports on our experience with these issues and provides some guidelines for addressing the associated problems. (Author abstract) 12 Refs.
   Descriptors: *Process **control** ; Computer aided manufacturing; **Factory automation** ; Feature extraction; Object oriented programming; Database systems; Computer software; Algorithms
   Identifiers: Computer aided process planning
   Classification Codes:
   913.4.2 (Computer Aided Manufacturing)
   913.4 (Manufacturing); 723.5 (Computer Applications); 723.4 (Artificial Intelligence)
   731 (Automatic Control Principles); 913 (Production Planning & Control) ; 723 (Computer Software)
   73 (CONTROL ENGINEERING); 91 (ENGINEERING MANAGEMENT); 72 (COMPUTERS & DATA PROCESSING)

   16/5/13   (Item 13 from file: 8)

07075717   E.I. No: EIP95022575833

Title: Integrating information with PC-based DAC software
Author: Gerold, Jane Stoffel
Source: Control Engineering v 41 n 3 Mar 1994. p 99-102
Publication Year: 1994
CODEN: CENGAX   ISSN: 0010-8049
Language: English
Document Type: JA; (Journal Article)   Treatment: A; (Applications)
Journal Announcement: 9504w4

Abstract: Tools such as DDE, OLE, DLL and ODBC are making it easier for data acquisition and control (DAC) software to integrate real-time data acquired on the plant floor into the business-wide management system. DDE, or dynamic data exchange, is a standard that allows different Windows programs to share information automatically in the background. With DDE, data from DAC systems can now be easily imported into business management software such as spreadsheets and databases. OLE, or object linking and embedding, allows objects to be embedded from one application into another. OLE and distributed objects will overcome the limitations currently posed by diverse programs and platforms used in DAC environments. ODBC, or open/ object database connectivity provides the ability to connect various database software products. DLLs, or dynamic link libraries, are clever implementations that allow very large programs to run without causing memory crunch. Some DAC software packages are described.
   Descriptors: *Computer control; Personal computers; Computer software; Control facilities; Data acquisition; Object oriented programming; Database systems; Management information systems; Factory automation ; Graphical user interfaces
   Identifiers: Data acquisition and control; Boardroom; Dynamic data exchange; Dynamic link library; Object management group
   Classification Codes:
   723.5 (Computer Applications); 722.4 (Digital Computers & Systems); 723.1 (Computer Programming); 731.1 (Control Systems); 723.2 (Data Processing); 723.3 (Database Systems)
   723 (Computer Software); 722 (Computer Hardware); 731 (Automatic Control Principles)
   72 (COMPUTERS & DATA PROCESSING); 73 (CONTROL ENGINEERING)

16/5/18   (Item 18 from file: 8)
DIALOG(R)File   8:Ei Compendex(R)

05819885   E.I. Monthly No: EIM8911-039883
   Title: **Languages and tools for the graphical and textual system independent programming of** programmable logic controllers .
   Author: Halang, Wolfgang A.
   Corporate Source: Univ of Groningen, Groningen, Neth
   Conference Title: Fifteenth EUROMICRO Symposium on Microprocessing and Microprogramming - (EUROMICRO 89)
   Conference Location: Cologne, West Ger. Conference Date: 19890904
   E.I. Conference No.: 12577
   Source: Microprocessing and Microprogramming v 27 n 1-5 Aug 1989. p 583-590
   Publication Year: 1989
   CODEN: MMICDT   ISSN: 0165-6074
   Language: English
   Document Type: JA; (Journal Article)   Treatment: A; (Applications); T; (Theoretical)
   Journal Announcement: 8911
   Abstract: Presently, only vendor specific low-level textual and graphical languages are available for the programming of programmable logic controllers (PLC). In order to improve this situation, the International Electrotechnical Commission (IEC) is undertaking a standardisation effort defining four compatible languages, which may be tranformed into one another. Two of them are textual and the other two are graphical. We introduce these languages with emphasis on the two high-level ones,

represented by a Pascal-like structured textual and a graphical block diagram language. The latter is mainly suitable to express software modularisation, tasking, and control sequences in a form similar to Petri-nets. A number of CAE tools are described supporting the realisation of **PLC** application projects. They are based on the IEC standard's two high-level languages and provide an environment for graphical and textual programming, **module library** administration, documentation, and **application program generation** . (Edited **author** abstract) 6 Refs.
    Descriptors: *COMPUTER PROGRAMMING--*Control; LOGIC DEVICES; COMPUTER PROGRAMMING LANGUAGES; COMPUTER GRAPHICS
    Identifiers: **PROGRAMMABLE LOGIC CONTROLLERS** ; GRAPHICAL LANGUAGES; INTERNATIONAL ELECTROTECHNICAL COMMISSION (IEC); PETRI-NETS; HIGH-LEVEL LANGUAGES; TEXTUAL PROGRAMMING
    Classification Codes:
    723 (Computer Software); 721 (Computer Circuits & Logic Elements); 722 (Computer Hardware)
    72 (COMPUTERS & DATA PROCESSING)

  16/5/34   (Item 5 from file: 2)
  DIALOG(R)File   2:INSPEC
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  06226108   INSPEC Abstract Number: C9605-7420D-003
    Title: **Application of object-oriented techniques to the design and operation of factories**
    Author(s): Wheeler, G.C.W.S.
    Author Affiliation: British Maritime Technol. Ltd., UK
    Conference Title: IEE Colloquium on Intelligent Manufacturing Systems (Digest No. 1995/238)   p.3/1-6
    Publisher: IEE, London, UK
    Publication Date: 1995 Country of Publication: UK   48 pp.
    Material Identity Number: XX96-00556
    Conference Title: IEE Colloquium on Intelligent Manufacturing Systems (Digest No. 1995/238)
    Conference Sponsor: IEE
    Conference Date: 12 Dec. 1995   Conference Location: London, UK
    Language: English   Document Type: Conference Paper (PA)
    Treatment: Practical (P)
    Abstract: Heracles is a system for applying the object-oriented techniques of modern software production to the construction of modern automated (i.e. "robot") factories. In programming, an object consists of data and the actions defined on it: in HERACLES, an object is a hardware component (e.g a grabber), data, and a software template defining the methods implemented on that object. A CAD system and a **software** design environment are used to **create** the **objects** , which are stored in a **library** . **Objects** are used by the **code generator** , simulation, monitoring, and diagnostics systems. Traditional design methods have no integration of any of these components. HERACLES also allows class information to be re-used in future projects. (7 Refs)
    Subfile: C
    Descriptors: control system CAD; industrial control; industrial robots; object-oriented programming; software libraries
    Identifiers: object-oriented techniques; Heracles; software production; modern **automated factory** construction; robot; hardware component; software template; CAD system; software design environment
    Class Codes: C7420D (Control system design and analysis); C3355 (Control applications in manufacturing processes); C6110J (Object-oriented programming); C3390 (Robotics)
    Copyright 1996, IEE

  16/5/40   (Item 11 from file: 2)
  DIALOG(R)File   2:INSPEC
  (c) 2006 Institution of Electrical Engineers. All rts. reserv.

05130224   INSPEC Abstract Number: C9205-7480-063
  Title: Generation of assembly   programs **with** database **and sensor**
support
  Author(s): Seliger, G.; Heinemeier, H.-J.; Neu, S.
  Journal: ZWF   Zeitschrift   fur   Wirtschaftliche   Fertigung   und
Automatisierung   vol.87, no.2   p.104-7
  Publication Date: Feb. 1992 Country of Publication: West Germany
  CODEN: ZZWAEM ISSN: 0932-0482
  Language: German   Document Type: Journal Paper (JP)
  Treatment: Practical (P)

  Abstract: The generation of robot programs for the automated assembly can
be supported with planning information from databases. Robot coordinates
created by off-line programming cannot be applied without online adaptation
according to the accuracy requirements. Manual teaching is tedious and time
consuming. Vision systems enable the determination of the real position and
orientation of equipment and thus the automated adaptation of assembly
programs. (4 Refs)
  Subfile: C
  Descriptors: assembling; computer vision; database management systems;
factory   automation ; robot programming
  Identifiers: robot programming; computer vision; **factory   automation** ;
industrial robots; program generation; automated assembly
  Class Codes: C7480 (Production engineering); C6160 (Database management
systems (DBMS)); C5260B (Computer vision and picture processing); C6110 (
Systems analysis and programming)

  16/5/49   (Item 20 from file: 2)
DIALOG(R)File   2:INSPEC

04022156   INSPEC Abstract Number: C88004668
  Title: Distributed intelligence in process control
  Author(s): Berry, D.
  Journal: Control Engineering   vol.34, no.5   p.62-4
  Publication Date: May 1987 Country of Publication: USA
  CODEN: CENGAX ISSN: 0010-8049
  Language: English   Document Type: Journal Paper (JP)
  Treatment: Practical (P)

  Abstract: Foxboro Company has announced the Intelligent Automation
Series, a system of hardware, software, applications, and services designed
for distributed intelligence in industrial process control. The product
line is offered as a control, information, and measurement systems package,
that features open communication architecture, environmentally hardened
hardware, hardware independent software, and online reconfiguration. A
distributed global **database** allows each **function** with the manufacturing
organization to **develop** an **applications** window of pertinent information
for **plant** management and **control** .   (0 Refs)
  Subfile: C
  Descriptors: distributed control; process computer control
  Identifiers: I/A series; Foxboro Company; Intelligent Automation Series;
distributed intelligence; industrial process control; information;
measurement systems package; open communication architecture;
environmentally hardened hardware; hardware independent software; online
reconfiguration; distributed global database; plant management
  Class Codes: C3350 (Industrial production systems); C7420 (Control
engineering)

  16/5/56   (Item 27 from file: 2)
DIALOG(R)File   2:INSPEC

03126025   INSPEC Abstract Number: C83039517, D83000951

Title: **Advanced System** Pac : **the best of two software worlds**
Author(s): Hudson, D.H.
Journal: Interface Age   vol.8, no.8   p.123-7
Publication Date: Aug. 1983 Country of Publication: USA
CODEN: INFAD5 ISSN: 0147-2992
Language: English   Document Type: Journal Paper (JP)
Treatment: Applications (A); Practical (P)

Abstract: Data Basic (Mt. Pleasant, MI, USA) has introduced a new package that will utilise more power from computers. This software is a cross between a **database** management system and a **code generator** . It runs on most CP/M machines, including the Apple II (with CP/M card), DEC, Lynk, Novell, IBM (with CP/M), TeleVideo-802, TRS-80, Victor 9000, Xerox 820 and Zenith. This multi-function package can be of value to both the curious novice and the demanding programmer. The software starts with SystemPac ($395), a file handler designed for the first-time user. The next set up is Advanced SystemPac ($695). (0 Refs)
Subfile: C D
Descriptors: database management systems
Identifiers: Advanced System **Pac** ; database management system; code generator; CP/M machines; Apple II; DEC; Lynk; Novell; IBM; TeleVideo-802; TRS-80; Victor 9000; Xerox 820; Zenith; programmer
Class Codes: C6160 (Database management systems (DBMS)); C7100 (Business and administration); D5010 (Computers and work stations)

16/5/71   (Item 12 from file: 6)
DIALOG(R)File 6:NTIS

1262803 NTIS Accession Number: DE86012744
GPIB88: A Function Library for the IBM Personal Computer to Support DeSmet C Application Programs for the National Instruments **PC2 IEEE-488** Controller
Lundgaard, N. ; McGirt, F.
Los Alamos National Lab., NM.
Corp. Source Codes: 072735000; 9512470
Sponsor: Department of Energy, Washington, DC.
Report No.: LA-10735-MS
May 86   13p
Languages: English
Journal Announcement: GRAI8624; NSA1100
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)321-8547; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.
NTIS Prices: PC A02/MF A01
Country of Publication: United States
Contract No.: W-7405-ENG-36
The GPIB88 function library for the IBM PC family is a high-level language interface to the National Instruments IEEE-488 PC2 interface board that uses National Instruments handler Rev. B.2. This **library** supports **application programs written** in DeSmet C. Such support functions for DeSmet C are not available from National Instruments. 2 refs. (ERA citation 11:042408)
Descriptors: *Equipment Interfaces; *Personal Computers; *IBM Computers; Computer Codes; Libraries; Programming
Identifiers: ERDA/990200; Software libraries; NTISDE
Section Headings: 62B (Computers, Control, and Information Theory--Computer Software)

16/5/79   (Item 2 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

Title: ON PAC **LEARNABILITY OF FUNCTIONAL-DEPENDENCIES**
Author(s): AKUTSU T; TAKASU A
Corporate Source: GUNMA UNIV,DEPT ONCOL,1-5-1 TENJIN/KIRYU/GUNMA 376/JAPAN/
    ; NATL CTR SCI INFORMAT SYST,BUNKYO KU/TOKYO 112//JAPAN/
Abstract: This paper proposes a kind of probably approximately correct (
    PAC) learning framework for inferring a set of functional dependencies
    (FDs) from example tuples. A simple algorithm is considered that
    outputs a set of all FDs which hold in a set of example tuples. Let r
    be a relation (a set of tuples). We define the error for a set of FDs
    FS as the minimum SIGMA(t is-an-element-of nu P(t); where nu (nu
    subset-of r) is a set such that FS holds in r - nu, and P(t) denotes
    the probability that tuple t is picked from r. Our attention is
    focused on the sample complexity, and we show that the number of
    example tuples required to infer a set of FDs whose error does not
    exceed epsilon with probability at least 1 - delta under an arbitrary
    probability distribution is
    O((square-rootln(1/delta)/epsilon)square-root\r\).
Descriptors--Author Keywords: **PAC** LEARNING ; COMPUTATIONAL LEARNING
    THEORY ; FUNCTIONAL DEPENDENCY ; RELATIONAL DATABASE ; BIRTHDAY PARADOX
Research Fronts: 92-0070 002   (**OBJECT** -ORIENTED **DATABASE** MODEL;
    SOFTWARE MAINTENANCE PRODUCTIVITY; SEMANTIC VIEW)
    92-0398 001   (AUTOMATIC ADAPTIVE REFINEMENT FINITE-ELEMENT **PROCEDURE** ;
    ERROR ESTIMATORS; MESH **GENERATION** ; DYNAMIC **ALGORITHMS** IN
    COMPUTATIONAL GEOMETRY)

21/5/3   (Item 3 from file: 8)

08080793   E.I. No: EIP98084328732
   Title: **Open architecture** modular   **tool kit for motion and machining**
 process   control
   Author: Altintas, Y.; Erol, N.A.
   Corporate Source: Univ of British Columbia, Vancouver, BC, Can
   Source: CIRP Annals - Manufacturing Technology v 47 n 1 1998. p 295-300
   Publication Year: 1998
   CODEN: CIRAAT   ISSN: 0007-8506
   Language: English
   Document Type: JA; (Journal Article)   Treatment: A; (Applications); T;
(Theoretical)
   Journal Announcement: 9809W5
   Abstract: An open and reconfigurable **modular** tool kit is presented for
the design of CNC systems for machine tools and machining process
monitoring. By selecting standard commands from the software tool kit
library, the user is able to design a new CNC system automatically. The
developed system allows **integration** of user **developed program
modules** to the tool kit **library** . The developed CNC is based on a fully
integrated , open, real-time, preemptive DSP operating system and a Windows
NT application. It has hardware independent architecture, and supports
multiple DSP boards and multiple host computers for machine tool and robot
drive motion control, trajectory generation and sensor based machining
process   control and monitoring applications. The system can be quickly
configured to control different machine tools, robots and sensor based
processes by selecting standard script commands from the design library.
The paper contains sample applications for machine tool control and sensor
assisted machining applications. (Author abstract) 9 Refs.
   Descriptors: *Computer control; Numerical control systems; Computer
systems programming; Machining; Computer aided software engineering; Real
time systems; Computer operating systems; Sensors; Mobile robots; Computer
architecture
   Identifiers: Software package Windows; Robot drive motion control
   Classification Codes:
   723.5 (Computer Applications); 731.5 (Robotics); 731.1 (Control
Systems); 723.1 (Computer Programming); 604.2 (Machining Operations);
722.4 (Digital Computers & Systems)
   723 (Computer Software); 731 (Automatic Control Principles); 604
(Metal Cutting & Machining); 722 (Computer Hardware)
   72 (COMPUTERS & DATA PROCESSING); 73 (CONTROL ENGINEERING); 60
(MECHANICAL ENGINEERING)

21/5/4   (Item 4 from file: 8)

07264868   E.I. No: EIP95102884161
   Title: **Flexible control system for robot assembly automation**
   Author: Fu, Li-Chen; Jann, Larry
   Corporate Source: Natl Taiwan Univ, Taipei, Taiwan
   Conference Title: Proceedings of the IEEE International Symposium on
Assembly and Task Planning
   Conference Location: Pittsburgh, PA, USA Conference Date:
19950810-19950811
   Sponsor: IEEE
   E.I. Conference No.: 43723
   Source: Proceedings of the IEEE International Symposium on Assembly and
Task Planning 1995.,95TB8123. p 286-291
   Publication Year: 1995
   CODEN: 002162   ISSN: 02561
   Language: English

Document Type: CA; (Conference Article)   Treatment: A; (Applications); T
; (Theoretical)
Journal Announcement: 9512W1
Abstract: In this paper, we propose an object-oriented model for a
control system architecture of robotic assembly automation and extend this
model to all event driven automation system. Based on this model, we
develop a systematic **procedure** by means of EDAK claslib (Event Driven
Automation Kernel **Class Library**) to support the users to easily
implement any event driven automation system. The by-product is to allow
system designer to easily expand an existing system or **integrate** several
event driven automation systems which are all supported by EDAK control
system. (Author abstract) 21 Refs.
Descriptors: *Robotic assembly; **Automation** ; **Control systems** ; Object
oriented programming; Mathematical models; Control system synthesis;
Hierarchical systems; Robot programming; Expert systems
Identifiers: Flexible control system; Event Driven Automation Kernel
(EDAK) Class Library
Classification Codes:
723.4.1 (Expert Systems)
731.6 (Robot Applications); 913.1 (Production Engineering); 731.1
(Control Systems); 723.1 (Computer Programming); 723.4 (Artificial
Intelligence)
731 (Automatic Control Principles); 913 (Production Planning & Control)
; 723 (Computer Software); 921 (Applied Mathematics)
73 (CONTROL ENGINEERING); 91 (ENGINEERING MANAGEMENT); 72 (COMPUTERS &
DATA PROCESSING); 92 (ENGINEERING MATHEMATICS)

21/5/6   (Item 6 from file: 8)

06673352   E.I. No: EIP93071022895
   Title: Integrated **process planning and NC part programming system for
rotational components**
Author: Thakar, Girish; Shanker, Kripa; Jain, V.K.
Corporate Source: Indian Inst of Technology, Kanpur, India
Language: English
Document Type: JA; (Journal Article)   Treatment: A; (Applications); T;
(Theoretical)
Journal Announcement: 9309W3
Abstract: This paper describes the design and development of an
integrated process planning and part programming system for rotational
components. The process planning module consists of databases for
operations, machines, tools, cutting fluids, machining parameters, work
materials, tool materials and tool location on turrets. The part
programming module receives its major inputs from the process planning
module. Additional information such as part program identification,
desirability of coolant, and coordinates of the starting point of an
operation, are provided interactively by the user. The part program
corresponding to an operation is retrieved from a part **program database**
 created for the purpose, and the relevant data are incorporated. The
system supports standard lathe operations like turning, facing, axial
boring, thread turning axial drilling etc. The system provides adequate
help facilities in situations of inconsistent inputs and incompatibility
amongst entities. It is implemented on an IBM PC-XT/AT compatible. (Author
abstract) 16 Refs.
Descriptors: *Process engineering; **Process control** ; Computer
programming; Planning; Database systems; Rotating machinery; Lathes;
Computer applications; Production engineering; Numerical control systems
Identifiers: Rotational components; NC part programming; **Integrated**
process planning

Classification Codes:
 913.1 (Production Engineering); 731.2 (Control System Applications);
723.5 (Computer Applications); 723.2 (Data Processing)
 913 (Production Planning & Control); 731 (Automatic Control Principles)
; 603 (Machine Tools); 601 (Mechanical Design); 723 (Computer Software)
 91 (ENGINEERING MANAGEMENT); 73 (CONTROL ENGINEERING); 60 (MECHANICAL
ENGINEERING); 72 (COMPUTERS & DATA PROCESSING)

21/5/24   (Item 12 from file: 2)
DIALOG(R)File   2:INSPEC

04882418   INSPEC Abstract Number: C91037291
 Title: **Universal** process   control **for flexible manufacturing**
 Author(s): Weck, M.; Lange, N.
 Journal: VDI-Z   vol.133, no.3   p.50, 53-6
 Publication Date: March 1991 Country of Publication: West Germany
 CODEN: VZGTAJ ISSN: 0042-1766
 Language: German   Document Type: Journal Paper (JP)
 Treatment: Practical (P)
Abstract: The   elaboration   of   a   control   software   for   flexible
manufacturing systems (FMS) is very cost intensive because of the complex
functional   design   of   such   systems. The   paper   describes   a **modular**,
decentrally configurated and universal **process   control** which can be
adapted to various FMS control requirements without great effort. By way of
the open type structure, the utilization of communication protocols and the
 integration of a relational **data   base** system can provide additional
 functions   . This control **software** has been **developed** by the machine
tool department of the Laboratorium fur Werkzeugmaschinen und Betriebslehre
of the Aachen university in the framework of an industrial working group of
FMS manufacturers, FMS users and software houses. (0 Refs)
 Subfile: C
 Descriptors: flexible manufacturing systems; process computer control;
protocols; relational databases
 Identifiers: universal **process   control** ; flexible manufacturing;
control software; decentrally configurated; open type structure;
communication protocols; relational data base system; machine tool
department; industrial working group; FMS; software houses
 Class Codes: C7160 (Manufacturing and industry); C7420 (Control
engineering); C5620 (Computer networks and techniques)

22/5/9   (Item 9 from file: 8)

07447176   E.I. No: EIP96073241475
   Title: **Managing control algorithms with an object-oriented database**
   Author: Bickley, M.; Watson, W.
   Corporate Source: Continuous Electron Beam Accelerator Facility, Newport
News, VA, USA
   Conference Title: Proceedings of the 1995 16th Particle Accelerator
Conference. Part 4 (of 5)
   Conference Location: Dallas, TX, USA   Conference Date: 19950501-19950505
   E.I. Conference No.: 44949
   Source: Proceedings of the IEEE Particle Accelerator Conference v 4 1995.
IEEE, Piscataway, NJ, USA,95CB35843. p 2276-2278
   Publication Year: 1995
   CODEN: PIACET
   Language: English
   Document Type: CA; (Conference Article)   Treatment: A; (Applications); T
; (Theoretical)
   Journal Announcement: 9609W2

   Abstract: The Continuation Electron Beam Accelerator Facility (CEBAF)
uses the Experimental Physics and **Industrial Control** System (EPICS) for
accelerator control. At CEBAF, there are roughly 125,000 unique
instantiated records each associated with a specific piece of hardware.
Management of these records in a database simplifies the tasks of
application developers . CEBAF needed an environment to provide support
for development of EPICS **database** management tools. Hence, an **object**
-oriented **database** (OODB) has been chosen because of its higher
performance and its ability to smoothly manage objects of different types.
3 Refs.
   Descriptors: *Particle accelerators; Database systems; Algorithms; Object
oriented programming; Computer control systems; Computer hardware; Data
acquisition; Records management; Real time systems; Computer operating
systems
   Identifiers: Object oriented database; Accelerator control system;
Continuous electron beam accelerator; Experimental physics and **industrial
 control** system
   Classification Codes:
   932.1.1 (Particle Accelerators)
   932.1 (High Energy Physics); 723.3 (Database Systems); 723.1 (Computer
Programming); 731.1 (Control Systems); 723.5 (Computer Applications);
722.4 (Digital Computers & Systems)
   932 (High Energy, Nuclear & Plasma Physics); 723 (Computer Software);
731 (Automatic Control Principles); 722 (Computer Hardware)
   93 (ENGINEERING PHYSICS); 72 (COMPUTERS & DATA PROCESSING); 73
(CONTROL ENGINEERING)

22/5/15   (Item 15 from file: 8)

06825354   E.I. No: EIP94031245999
   Title: **Libraries and tools for object-oriented distributed automation
software**
   Author: Pirklbauer, K.; Plosch, R.; Weinreich, R.
   Corporate Source: Johannes Kepler Univ of Linz, Linz, Austria
   Conference   Title: Proceedings of 1993 International Conference on
Systems, Man and Cybernetics. Part 4 (of 5)
   Conference Location: Le Touquet, Fr   Conference Date: 19931017-19931020
   E.I. Conference No.: 20056
   Source: Proceedings of the IEEE International Conference on Systems, Man
and Cybernetics v 4 1993. Publ by IEEE, IEEE Service Center, Piscataway,
NJ, USA,93CH3242-5. p 403-408

Abstract: Object-oriented programming allows the **construction** of
software component **libraries** and predefined **program** structures
(application frameworks) that significantly improve software quality and
reduce software development time. We claim that in addition to such
libraries we need tools that both allow the composition of applications
using such libraries and offer the possibility to experiment with
prototypes of such applications. We present the prototyping tool
ProcessBuild, which is based on the application framework ProcessTalk. Both
support the implementation of software in the area of process automation,
an area that is fairly distinct from the construction of graphic user
interfaces, for which such libraries or tools are usually intended. (Author
abstract) 15 Refs.
Descriptors: *Object oriented programming; Computer aided software
engineering; Automation; Distributed computer systems; Computer software;
User interfaces; Computer graphics; **Process   control**
    Identifiers: Program structures; Application frameworks; Software quality
; Prototyping tool; Processbuild; Processtalk; Process automation; Graphic
user interfaces
    Classification Codes:
    723.1   (Computer Programming); 723.5   (Computer Applications); 732.2
(Control Instrumentation); 722.2   (Computer Peripheral Equipment); 731.3
(Specific Variables Control); 722.4   (Digital Computers & Systems)
    723   (Computer Software); 732   (Control Devices); 722   (Computer
Hardware); 731   (Automatic Control Principles)
    72   (COMPUTERS & DATA PROCESSING); 73   (CONTROL ENGINEERING)

22/5/19   (Item 19 from file: 8)
DIALOG(R)File   8:Ei Compendex(R)
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06601120   E.I. Monthly No: EI9305062619
    Title: Experience with Autonet.
    Author: Rodeheffer, Thomas L.
    Corporate Source: Digital Equipment Corp, Palo Alto, CA, USA
    Source: Computer Networks and ISDN Systems V 25 n 6 Jan 1993 p 623-629
    Publication Year: 1993
    CODEN: CNISE9   ISSN: 0169-7552
    Language: English
    Document Type: JA; (Journal Article)   Treatment: A; (Applications); G;
(General Review)
    Journal Announcement: 9305
    Abstract: Autonet is a self-configuring, switch-based local-area network
with automatic routing of individual Ethernet-style packets. The twelve
ports on each switch may be connected to host controllers or other switch
ports in arbitrary configurations. A distributed control program running in
the switches monitors the state of the network, determines deadlock-free
routes for all sources and destinations, and sets up hardware forwarding
tables for each switch. A link is a single wire of cable-television coax up
to 100 m long, passing data at 100 Mbit/s simultaneously in each direction.
Functionally, Autonet looks like Ethernet, but it is faster, easier to
manage, and more available. Autonet has excellent performance and can grow
easily and economically by adding redundant links and switches to provide
increased throughput. Automatic reconfiguration and failover enable the
network to operate in any configuration, to defend itself against
intermittent components, and to be repaired while still in operation.
(Author abstract) 7 Refs.
    Descriptors: *LOCAL AREA NETWORKS; DATA COMMUNICATION SYSTEMS; CRITICAL
PATH ANALYSIS; DATA PROCESSING; **AUTOMATION** ; **CONTROL SYSTEMS** ; COMPUTER

SOFTWARE
   Identifiers: AUTONET; ETHERNET; DEADLOCK FREE ROUTES; DISTRIBUTED CONTROL
 PROGRAMS ; HARDWARE FORWARDING **TABLES** ; REDUNDANT **LINKS** AND SWITCHES
   Classification Codes:
   722 (Computer Hardware); 723 (Computer Software); 731 (Automatic
Control Principles)
   72 (COMPUTERS & DATA PROCESSING); 73 (CONTROL ENGINEERING)

22/5/36   (Item 9 from file: 2)
DIALOG(R)File   2:INSPEC

05730466   INSPEC Abstract Number: C9409-6115-024
 Title: **A generalized approach to program generation for** process   control
applications
   Author(s): Angelov, C.K.; Ivanov, I.E.; Petkov, P.T.
   Author Affiliation: Dept. of Autom. and Syst. Eng., Tech. Univ. Sofia,
Bulgaria
   p.31-6
   Editor(s): Boullart, L.; de la Puente, J.A.
   Publisher: Pergamon Press, Oxford, UK
   Publication Date: 1992 Country of Publication: UK   286 pp.
   ISBN: 0 08 041894 5
   Conference Title: Proceedings of 18th IFAC Workshop on Real Time
Programming (WRTP '92)
   Conference Sponsor: IFAC; IFIP
   Conference Date: 23-26 June 1992   Conference Location: Bruges, Belgium
   Language: English   Document Type: Conference Paper (PA)
   Treatment: Practical (P)
   Abstract: A software design method is proposed in an attempt to overcome
the limitations of current program generation techniques. This has been
achieved by means of a general-purpose method for control program
specification. The latter encompasses two types of specification,
describing control program internal structure, as well as real-time
behavior, in the context of various types of **process control** systems
(i.e. continuous, sequence and batch **process** ·**control** systems, etc.).
This method has been further enhanced by developing facilities for
computer-aided design of new software modules to be included in the
 program generator library , i.e. a **code generator** and yet another
facility, allowing the user to define and subsequently use higher-level
(composite) modules. (7 Refs)
   Subfile: C
   Descriptors: automatic programming; CAD; configuration management; formal
specification; process computer control; real-time systems
   Identifiers: program generation; **process control** applications;
software design method; control program specification; control program
internal structure; real-time behavior; continuous processes; sequence
processes; batch processes; computer-aided design; software modules;
program generator library ; code generator; higher-level modules;
software configuration specifications; composite functional modules; module
generation
   Class Codes: C6115 (Programming support); C7420 (Control engineering);
C6110B (Software engineering techniques); C3350 (Industrial production
systems)

22/5/37   (Item 10 from file: 2)
DIALOG(R)File   2:INSPEC

05627311   INSPEC Abstract Number: C9405-6110J-004
 Title: **Object-oriented programming in** process   control
   Author(s): Hill, R.; McKinnon, M.
   Journal: Elektron   vol.10, no.8   p.29-30

Publication Date: Aug. 1993 Country of Publication: South Africa
CODEN: ELEKE7 ISSN: 0255-8637
Language: English   Document Type: Journal Paper (JP)
Treatment: Practical (P)

Abstract: One of the major problems in getting to grips with
object-oriented programming (OOP) is the seemingly endless list of arcane
jargon associated with this technology. The authors briefly explain what is
meant by the jargon and what is involved in OOP. They then describe
object-oriented graphics and its **application** to **process   control** . The
authors discuss defining an **object** and then discuss **object** -oriented
databases .   (0 Refs)
Subfile: C
Descriptors: object-oriented databases; object-oriented programming;
process computer control
Identifiers: object-oriented programming; **process   control** ;
object-oriented graphics; object-oriented databases
Class Codes: C6110J (Object-oriented programming); C6160J (
Object-oriented databases); C7420 (Control engineering); C3355 (
Manufacturing processes)

22/5/38   (Item 11 from file: 2)
DIALOG(R)File   2:INSPEC
(c) 2006 Institution of Electrical Engineers. All rts. reserv.

05041403   INSPEC Abstract Number: C9201-6110-021
  Title: Object-oriented programming and visualization of automation systems
  Author(s): Zwinge, P.
  Author Affiliation: SattControl GmbH, Haan, Germany
  Journal: Automatisierungstechnische Praxis   vol.33, no.9   p.485-90
  Publication Date: Sept. 1991 Country of Publication: West Germany
  CODEN: ARTPER ISSN: 0178-2320
  Language: German   Document Type: Journal Paper (JP)
  Treatment: Theoretical (T)
  Abstract: The programming of automation-systems and the visualization of
the process in one single step is now realised by SattControl's **process -
control** -system SattLine. SattLine exceeds customary programming and the
separated visualization and offers a lot of tools to configurate complete
automation-networks. SattLine summarizes these working-steps in a common,
object-oriented graphic-editor. Further functions i.e.: clutch on standard-
module - libraries , creation of individual **libraries** , window- and zoom-
functions , batch- and report-handling, and software-test-routines reduce
the time spent on **creating** the **programs** for process-checking and
-controlling. (4 Refs)
  Subfile: C
  Descriptors: object-oriented programming; process computer control
  Identifiers: automation systems; SattControl's **process - control** -system
; SattLine; complete automation-networks; object-oriented graphic-editor;
clutch on standard-module-libraries; zoom-functions; report-handling;
software-test-routines; process-checking
  Class Codes: C6110 (Systems analysis and programming)

22/5/49   (Item 22 from file: 2)
DIALOG(R)File   2:INSPEC
(c) 2006 Institution of Electrical Engineers. All rts. reserv.

01858660   INSPEC Abstract Number: C76003389
  Title: The creation **of the** library **of model** algorithms **for** process
control **systems**
  Author(s): Feytis, J.; Mencl, J.
  Journal: Automatizovane Systemy Rizeni - Bulletin INORGA   vol.9, no.4
p.169-74
  Publication Date: 1975 Country of Publication: Czechoslovakia
  CODEN: ASRID2 ISSN: 0323-1410

Language: Czech   Document Type: Journal Paper (JP)
Treatment: Applications (A); Practical (P)

Abstract: Deals with the significant features of the main direction in
scientific research in the field of **process** . **control** , necessary for the
fulfilment of the planned development of automated **process control**
systems-creation of the model algorithms. (3 Refs)
Subfile: C
Descriptors: modelling; **process control**
Identifiers: library; model algorithms; **process control** systems;
scientific research
Class Codes: C1220 (Simulation, modelling and identification); C3350 (
Industrial production systems)

22/5/50   (Item 23 from file: 2)
DIALOG(R)File 2:INSPEC

01290485   INSPEC Abstract Number: C71016901
 Title: **Programming system for industrial** process   control
Author(s): Ollivier, F.; Boudillon, L.
Author Affiliation: Telemecanique, Torino, Italy
Conference Title: Proceedings of the 11th automation and instrumentation
conference   Part II   p.1121-34
Publisher: Fed. Sci. and Tech. Assocs, Milan, Italy
Publication Date: 1970 Country of Publication: Italy   xx+715 pp.
Conference Sponsor: Italian Nat. Res. Council; Italian Nat. Assoc.
Automation
Conference Date: 23-25 Nov. 1970   Conference Location: Milan, Italy
Language: French   Document Type: Conference Paper (PA)
Treatment: Practical (P)
Abstract: Discusses a technique of the type 'fill in the form' in order
to realise the programming system for the Telemecanique T2000 Computer. The
package consists of: a real time supervisor and special monitor systems, a
data logging-interpreter, a control-interpreter, utility **programs**
 (conversational **program** , **assembler** ,...), user **programs** . The
interpreter **programs** operate on data contained in **tables** : these on are
compiled by utility language. For the control (DDC, supervision) these
tables may be prepared 'on line': the user, consequently, has the
possibility to modify the control policy without halting the process. In
addition the system comprises programs for the identification and for the
determination of corrections and simulations, thus permitting to the user a
powerful means for modification of the control policy.
Subfile: C
Descriptors: **process control** ; program interpreters; real-time systems
; supervisory programs; utility programs
Identifiers: programming system; industrial **process control** ;
Telemecanique T2000 computer; real time supervisor; monitor systems; data
logging interpreter; control interpreter; utility programs; user programs
Class Codes: C6100 (Software techniques and systems)

```
File    8:Ei Compendex(R) 1884-2006/Nov W1
          (c) 2006 Elsevier Eng.  Info. Inc.
File   35:Dissertation Abs Online 1861-2006/Nov
          (c) 2006 ProQuest Info&Learning
File   65:Inside Conferences 1993-2006/Nov 27
          (c) 2006 BLDSC all rts. reserv.
File    2:INSPEC 1898-2006/Nov W3
          (c) 2006 Institution of Electrical Engineers
File   94:JICST-EPlus 1985-2006/Aug W2
          (c)2006 Japan Science and Tech Corp(JST)
File    6:NTIS 1964-2006/Nov W2
          (c) 2006 NTIS, Intl Cpyrght All Rights Res
File  144:Pascal 1973-2006/Nov W1
          (c) 2006 INIST/CNRS
File  434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
          (c) 2006 The Thomson Corp
File   34:SciSearch(R) Cited Ref Sci 1990-2006/Nov W3
          (c) 2006 The Thomson Corp
File   99:Wilson Appl. Sci & Tech Abs 1983-2006/Sep
          (c) 2006 The HW Wilson Co.
File  266:FEDRIP 2006/Aug
          Comp & dist by NTIS, Intl Copyright All Rights Res
File   95:TEME-Technology & Management 1989-2006/Nov W4
          (c) 2006 FIZ TECHNIK
File   56:Computer and Information Systems Abstracts 1966-2006/Nov
          (c) 2006 CSA.
File   60:ANTE: Abstracts in New Tech & Engineer 1966-2006/Nov
          (c) 2006 CSA.
File   62:SPIN(R) 1975-2006/Nov W2
          (c) 2006 American Institute of Physics
```

Set	Items	Description
S1	238201	MACHINE(1W)AUTOMATION OR AUTOMATION()(PROGRAM? ? OR SOFTWARE OR APPLICATION? ? OR CONTROL???? OR PROCEDURE? ?) OR MATERIAL? ?()HANDLING()CONTROL OR (AUTOMATED OR PROCESS OR INDUSTRIAL)()CONTROL
S2	132663	(PLANT OR FACTORY OR INSTRUMENT? ?)(3N)(AUTOMAT??? OR CONTROL????)
S3	62571	PROGRAMMABLE()LOGIC()CONTROLLER? ? OR PLC?.? OR PROCESS()AUTOMATION()CONTROL? ? OR PAC
S4	12584616	APPLICATION? ? OR PROGRAM? ? OR SOFTWARE OR ALGORITHM? ? OR PROCEDURE? ? OR CODE
S5	1757436	S4(5N)(GENERAT? OR CREAT??? OR DEVELOP??? OR WRIT??? OR AUTHOR? OR CONSTRUCT? OR BUILD??? OR BUILT OR PRODUCE OR PRODUCES OR PRODUCTION OR FORM? ? OR FORMED OR FORMING OR FORMATION OR ASSEMBL? OR LINK??? OR COMBIN? OR JOIN???)
S6	181607	(LIBRARY OR LIBRARIES OR TABLE? ? OR DIRECTORY OR DIRECTORIES OR DATABASE? ? OR DATA()BASE? ? OR REPOSITOR???)(5N)(MODULE? ? OR OBJECT? ? OR FUNCTION? ? OR CLASS OR CLASSES OR APPLET? ?. OR FILE? ? OR ALGORITHM? ? OR PROCEDURE? ? OR CODE OR PROGRAM? ?)
S7	382	S1 AND S5 AND S6
S8	152	S2 AND S5 AND S6
S9	96	S3 AND S5 AND S6
S10	19584	S5(20N)S6
S11	189	S1 AND S10
S12	87	S2 AND S10
S13	39	S3 AND S10
S14	125	S12:S13
S15	102	RD (unique items)
S16	92	S15 NOT PY=2004:2006
S17	235017	MACHINE(1W)AUTOMATION OR AUTOMATION()CONTROL???? OR MATERIAL? ?()HANDLING()CONTROL OR (AUTOMATED OR PROCESS OR INDUSTRIAL)()CONTROL
S18	165	S17 AND S10

```
S19      129    RD   (unique items)
S20      101    S19 NOT (S15 OR PY=2004:2006)
S21       36    S20 AND (MODULAR? OR INTEGRAT? OR REUSAB?)
S22       65    S20 NOT S21
S23    12684    AU=(MILLS, D? OR WAGNER, S? OR MILLS D? OR WAGNER S?)
S24       37    S1:S3 AND S23
S25        3    S5:S6 AND S24
S26       19    S17 AND S23
S27       18    RD   (unique items)
```

Set	Items	Description
S1	18414	MACHINE(1W)AUTOMATION OR AUTOMATION()CONTROL???? OR MATERIAL? ?()HANDLING()CONTROL OR (AUTOMATED OR PROCESS OR INDUSTRIAL)()CONTROL
S2	23368	(PLANT OR FACTORY OR INSTRUMENT? ?)(3N)(AUTOMAT??? OR CONTROL????)
S3	57453	PROGRAMMABLE()LOGIC()CONTROLLER? ? OR PLC? ? OR PROCESS()AUTOMATION()CONTROL? ? OR PAC
S4	2937543	APPLICATION? ? OR PROGRAM? ? OR SOFTWARE OR ALGORITHM? ? OR PROCEDURE? ? OR CODE
S5	423771	S4(5N)(GENERAT? OR CREAT??? OR DEVELOP??? OR WRIT??? OR AUTHOR? OR CONSTRUCT? OR BUILD??? OR BUILT OR PRODUCE OR PRODUCES OR PRODUCTION OR FORM? ? OR FORMED OR FORMING OR FORMATION OR ASSEMBL? OR LINK??? OR COMBIN? OR JOIN???)
S6	129078	(LIBRARY OR LIBRARIES OR TABLE? ? OR DIRECTORY OR DIRECTORIES OR DATABASE? ? OR DATA()BASE? ? OR REPOSITOR???)(5N)(MODULE? ? OR OBJECT? ? OR FUNCTION? ? OR CLASS OR CLASSES OR APPLET? ? OR FILE? ? OR ALGORITHM? ? OR PROCEDURE? ? OR CODE OR PROGRAM? ?)
S7	18485	S5(20N)S6
S8	86	S1(50N)S7
S9	27	S2(50N)S7
S10	25	S3(50N)S7
S11	42	S1:S3/TI,AB AND S8:S10
S12	42	IDPAT (sorted in duplicate/non-duplicate order)

DIALOG(R)File 348:EUROPEAN PATENTS
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00684030
UNIFORM CONTROL TEMPLATE GENERATING SYSTEM AND METHOD FOR PROCESS
    CONTROL **PROGRAMMING**
SYSTEM ZUR ERZEUGUNG VON UNIFORMEN STEUERUNGSMODELLEN UND VERFAHREN ZUR
    PROZESSSTEUERUNGSPROGRAMMIERUNG
PROCEDE ET SYSTEME DE GENERATION D'UN MODELE DE COMMANDE UNIFORME
    S'APPLIQUANT A LA PROGRAMMATION D'UNE COMMANDE DE PROCESSUS
PATENT ASSIGNEE:
  Fisher-Rosemount Systems, Inc., (1756730), 8301 Cameron Road, Austin,
    Texas 78754, (US), (Proprietor designated states: all)
INVENTOR:
  BLEVINS, Terrence, L., 3801 Carmel Drive, Round Rock, TX 78481, (US)
LEGAL REPRESENTATIVE:
  Bohnenberger, Johannes, Dr. et al (55292), Meissner, Bolte & Partner
    Widenmayerstrasse 48, 80538 Munchen, (DE)
PATENT (CC, No, Kind, Date):   EP 711429 A1 960515 (Basic)
                               EP 711429 B1 010328
                               WO 9504314   950209
APPLICATION (CC, No, Date):   EP 94923894 940616; WO 94US6858 940616
PRIORITY (CC, No, Date): US 98790 930729
DESIGNATED STATES: DE; FR; GB; SE
INTERNATIONAL PATENT CLASS (V7): G05B-019/042
CITED PATENTS (EP B): WO 91/19237 A; US 4843538 A; US 4964042 A
CITED REFERENCES (EP B):
  PROCEEDINGS OF THE INDUSTRIAL COMPUTING CONFERENCE, vol.1, OCT. 27-31,
    1991, USA pages 387 - 400, XP000344823 W. MACLAY 'A GRAPHICAL
    PROFRAMMING ENVIRONMENT FOR DATA ACQUISITION AND PROCESS CONTROL'
  CONTROL ENGINEERING, vol.39, no.11, September 1992, NEW YORK US pages 98
    - 101, XP000316280 J.S. GEROLD 'OPERATOR INTERFACES OPEN NEW WINDOWS ON
    THE PROCESS'
  AUTOMATISIERUNGSTECHNISCHE PRAXIS - ATP, vol.32, no.11, November 1990,
    MUNCHEN DE pages 529 - 536, XP000173230 H.-P. KEMPNY & U. MAIER
    'HERSTELLERNEUTRALE KONFIGURIERUNG VON PROZESSLEITSYSTEMEN'
  IBM TECHNICAL DISCLOSURE BULLETIN, vol.33, no.6A, November 1990, US pages
    483 - 485 'ARCHITECTURE FOR SEPARATE USER-INTERFACE SOFTWARE
    DEVELOPMENT';
NOTE:
  No A-document published by EPO
LEGAL STATUS (Type, Pub Date, Kind, Text):
  Grant: 010328 B1 Granted patent
  Application: 950517 A International application (Art. 158(1))
  Oppn None: 020320 B1 No opposition filed: 20011229
  Application: 960515 A1 Published application (A1with Search Report
                            ;A2without Search Report)
  Examination: 960515 A1 Date of filing of request for examination:
                            960129
  Examination: 980527 A1 Date of despatch of first examination report:
                            980414
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:
Available Text Language   Update   Word Count
      CLAIMS B (English) 200113   1303
      CLAIMS B (German)   200113   1158
      CLAIMS B (French)   200113   1633
      SPEC B   (English) 200113   10283
Total word count - document A   0
Total word count - document B   14377
Total word count - documents A + B   14377

Systems that perform, monitor, control, and feed back functions in process control environments are typically implemented by software written in high-level computer programming languages such as Basic, Fortran or C and executed on a computer or controller. These high-level languages, although effective for process control programming, are not usually used or understood by process engineers, maintenance engineers, control engineers, operators and supervisors. Higher level graphical display languages have been developed for such personnel, such as continuous function block and ladder logic. Thus each of the engineers, maintenance personnel, operators, lab personnel and the like, require a graphical view of the elements of the process control system that enables them to view the system in terms relevant to their responsibilities.

For example, a process control program might be written in Fortran and require two inputs, calculate the average of the inputs and produce an output value equal to the average of the two inputs. This program could be termed the AVERAGE function and may be invoked and referenced through a graphical display for the control engineers. A typical graphical display may consist of a rectangular block having two inputs, one output, and a label designating the block as AVERAGE. A different program may be used to create a graphical representation of this same function for an operator to view the average value. Before the system is delivered to the customer, these software programs are placed into a library of predefined user selectable features. The programs are identified by function blocks. A user may then invoke a function and select the predefined graphical representations to create different views for the operator, engineer, etc. by selecting one of a plurality of **function** blocks from the **library** for use in defining a **process control** solution rather than having to **develop** a completely new **program** in Fortran, for example.

A group of standardized functions, each designated by an associated function block, may be stored in a control library. A designer equipped with such a library can design **process control** solutions by interconnecting, on a computer display screen, various functions or elements selected with the function blocks to perform particular tasks. The microprocessor or computer associates each of the functions or elements defined by the function blocks with predefined templates stored in the library and relates each of the program functions or elements to each other according to the interconnections desired by the designer. Ideally, a designer could design an entire process control program using graphical views of predefined functions without ever writing one line of code in Fortran or other high-level programming language.

DIALOG(R)File 348:EUROPEAN PATENTS
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00684030
UNIFORM CONTROL TEMPLATE GENERATING SYSTEM AND METHOD FOR PROCESS CONTROL PROGRAMMING
SYSTEM ZUR ERZEUGUNG VON UNIFORMEN STEUERUNGSMODELLEN UND VERFAHREN ZUR PROZESSSTEUERUNGSPROGRAMMIERUNG
PROCEDE ET SYSTEME DE GENERATION D'UN MODELE DE COMMANDE UNIFORME S'APPLIQUANT A LA PROGRAMMATION D'UNE COMMANDE DE PROCESSUS
PATENT ASSIGNEE:
  Fisher-Rosemount Systems, Inc., (1756730), 8301 Cameron Road, Austin,
    Texas 78754, (US), (Proprietor designated states: all)
INVENTOR:
  BLEVINS, Terrence, L., 3801 Carmel Drive, Round Rock, TX 78481, (US)
LEGAL REPRESENTATIVE:
  Bohnenberger, Johannes, Dr. et al (55292), Meissner, Bolte & Partner
    Widenmayerstrasse 48, 80538 Munchen, (DE)
PATENT (CC, No, Kind, Date):   EP 711429 A1 960515 (Basic)
                               EP 711429 B1 010328
                               WO 9504314   950209
APPLICATION (CC, No, Date):   EP 94923894 940616; WO 94US6858 940616
PRIORITY (CC, No, Date): US 98790 930729
DESIGNATED STATES: DE; FR; GB; SE
INTERNATIONAL PATENT CLASS (V7): G05B-019/042
NOTE:
  No A-document published by EPO
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	200113	1303
CLAIMS B	(German)	200113	1158
CLAIMS B	(French)	200113	1633
SPEC B	(English)	200113	10283
Total word count - document A			0
Total word count - document B			14377
Total word count - documents A + B			14377

UNIFORM CONTROL TEMPLATE GENERATING SYSTEM AND METHOD FOR PROCESS CONTROL PROGRAMMING

...SPECIFICATION create different views for the operator, engineer, etc. by
  selecting one of a plurality of **function** blocks from the **library** for
  use in defining a **process control** solution rather than having to
  develop a completely new **program** in Fortran, for example.
    A group of standardized functions, each designated by an associated
  function...

...be stored in a control library. A designer equipped with such a library
  can design **process control** solutions by interconnecting, on a
  computer display screen, various functions or elements selected with the
  ...

DIALOG(R)File 349:PCT FULLTEXT
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00251666   **Image available**
INTELLIGENT PROCESS CONTROL COMMUNICATION SYSTEM AND METHOD
PROCEDE ET SYSTEME DE COMMUNICATON INTELLIGENTS DESTINES A LA COMMANDE DE PROCESSUS INDUSTRIELS
Patent Applicant/Assignee:
  THE DOW CHEMICAL COMPANY,

Inventor(s):
  ALLBERY James D Jr,
  JOHNSON Susan J,
  TROISI Peter A,
  CULLEN James H,
  BUTLER Richard L,
  PATEL Chiman L,
  FERREIRA James P,
  UBAN James E,
  ELLISON Joseph,
  SCHULTZ Dale H,
Patent and Priority Information (Country, Number, Date):
  Patent: WO 9325965 A1 19931223
  Application: WO 93US5206 19930601 (PCT/WO US9305206)
  Priority Application: US 92898126 19920612
Designated States:
(Protection type is "patent" unless otherwise stated - for applications
prior to 2004)
  AT AU BB BG BR CA CH CZ DE DK ES FI GB HU JP KR LK LU MG MN MW NL NO NZ
  PL PT RO RU SD SE SK UA AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE
  BF BJ CF CG CI CM GA GN ML MR NE SN TD TG
Publication Language: English
Fulltext Word Count: 17116

INTELLIGENT PROCESS   CONTROL **COMMUNICATION SYSTEM AND METHOD**
Fulltext Availability:
  Detailed Description

English Abstract
  An intelligent front-end communication system which is interposed
  between a plurality of actively redundant **process   control** computers
  and a computer network. The intelligent front end communication system
  includes at least one...

  ...the computer network, and a serial communication interface which is
  coupled between the actively redundant **process   control** computers and
  the front end computer. The serial communication interface transmits
  sequential sets of dynamic data from the actively redundant **process**
  control computers to the front end computer. The front end computer
  includes a plurality of reflective...

Detailed Description
... ·in the appropriateapplication.
  Nevertheless,theuseofdifferentEthernetprotocoisforsecurity messages and
  write command messages, the use of different encryption **algorithms** for
  security **table** transfers and **write** command communication contracts,
  the I imitation of the time of the write command communication contracts
  ...

...combine to provide a very high degree of communication and write command
  security for the **process   control** computers 12a-1 2b.

  1 5 Additional protection is also substantially provided by the guardian
  ...

  12/3,K/14   (Item 14 from file: 348)
  DIALOG(R)File 348:EUROPEAN PATENTS
  (c) 2006 European Patent Office. All rts. reserv.

  01721357
  Method, system and storage medium for enhancing process   control
  Verfahren,   System   und   Speichermedium   zur   Verbesserung   einer
      Prozess-Steuerung
  Procede, moyen de stockage et systeme d'amelioration de commande de

processus

PATENT ASSIGNEE:
  GENERAL ELECTRIC COMPANY, (203903), 1 River Road, Schenectady, NY 12345,
    (US), (Applicant designated States: all)
INVENTOR:
  Parent, Scott R., 147 Patricia Avenue, Dalton, Massachusetts 01226, (US)
  Davis, John E., 58 Salvatore Drive, Westfield Massachusetts 01085, (US)
  Kaminsky, John A., 54 Van Dyke Drive South, Rensselaer New York 12144,
    (US)
  Avagliano, Aaron J., 958 Main Street, Clifton Park New York 12065, (US)
  Juback, Glen, 11230 Hillman, Davis MI 48350, (US)
LEGAL REPRESENTATIVE:
  Goode, Ian Roy (31097), London Patent Operation General Electric
    International, Inc. 15 John Adam Street, London WC2N 6LU, (GB)
PATENT (CC, No, Kind, Date): EP 1411403 A1 040421 (Basic)
APPLICATION (CC, No, Date): EP 2003255008 030813;
PRIORITY (CC, No, Date): US 64852 020823
DESIGNATED STATES: DE; ES; FR; GB; IT
EXTENDED DESIGNATED STATES: AL; LT; LV; MK
INTERNATIONAL PATENT CLASS (V7): G05B-019/404; G05B-019/401; G05B-019/418;
  B25J-009/16
ABSTRACT WORD COUNT: 154
NOTE:
  Figure number on first page: 1

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:
Available Text   Language   Update   Word Count
      CLAIMS A (English)   200417   720
      SPEC A   (English)   200417   5051
Total word count - document A   5771
Total word count - document B   0
Total word count - documents A + B   5771

Method, system and storage medium for enhancing process   control

...ABSTRACT A1
    Disclosed herein is a method for enhancing **process** **control** .
  Disclosed herein is a method for enhancing **process** **control** including
  initiating a manufacturing process (104) to create a product. The
  initiating includes setting a...

...updated system model (102). Additional embodiments include a system and
  a storage medium for enhancing **process** **control** .

...SPECIFICATION from a user system 120 would have access to use reporting
  applications provided by the **applications** server but not be given
  authority to alter the **applications** or data stored in **database** 114
  or run the transfer **function** driver 102. The firewall server may be
  implemented using conventional hardware and/or software as...

...production performance, process set points, quality reports and job
  tracking. In an embodiment for optimizing **process** **control** in the
  manufacture of a DVD, the database 114 may include data/information such
  as...

  12/3,K/28   **(Item 28 from file: 349)**
  DIALOG(R)File 349:PCT FULLTEXT
  (c) 2006 WIPO/Thomson. All rts. reserv.

  01200877   **Image available**
  CONFIGURABLE PLC AND SCADA-BASED CONTROL SYSTEM
  SYSTEME DE COMMANDE A PLC CONFIGURABLE ET BASE SUR SCADA
  Patent Applicant/Assignee:

CONFIGURABLE PLC AND SCADA-BASED CONTROL SYSTEM
SYSTEME DE COMMANDE A PLC CONFIGURABLE ET BASE SUR SCADA
Fulltext Availability:
  Detailed Description

English Abstract
  ...images. The deployment tool also provides the data via a download
  application (7) to a **PLC** application (9) for defining the objects and
  logic of the processing system.

French Abstract
  ...de deploiement fournit egalement des donnees via une application de
  telechargement (7) a une application **PLC** (9) pour definir les objets
  et la logique du systeme de traitement.

Detailed Description
... it is important to note in the present invention, as previously
  mentioned, that the configuration. **databases** 4 and GUI **program** are
  used for **creating** the **databases**
  6
  for both the SCADA application 1 1, and **PLC** **application** 9. The
  construction of the **PLC** data array 1 0 enables the RSLinx to
  efficiently download data from the deployment tool 3 to the **PLC** 8.

  As shown below, the use of graphical user interfaces permit a user to
  define...
...of the object tag is derived from the Configuration Tool database 4.
  Each time a **linked** screen is opened, the SCADA **application** software I
  I gathers its animation data from the Configuration **Database** 4 and
  activates the **objects** on the screen of the computer monitor (not
  shown). The SCADA tags are a set of addresses for 1/0 points that reside
  in the **PLC** 8. The SCADA software uses RSLinx or other communication OPC

drivers to communicate to the **PLC** and determine the status of the SCADA
tag. Animation then occurs based upon the state...

12/3,K/31   (Item 31 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00972250
SUPERVISORY PROCESS CONTROL **AND MANUFACTURING INFORMATION SYSTEM**
    APPLICATION HAVING AN EXTENSIBLE COMPONENT MODEL
APPLICATION DE SYSTEME D'INFORMATION DE FABRICATION ET DE COMMANDE DE
    PROCESSUS DE SUPERVISION, A MODELE DE COMPOSANT EXTENSIBLE
Patent Applicant/Assignee:
  WONDERWARE CORPORATION, 100 Technology Drive, Irvine, CA 92618, US, US
    (Residence), US (Nationality)
Inventor(s):
  RESNICK Robert M, 8568 Trinity River Circle, Fountain Valley, CA 92708,
    US,
  MCINTYRE James P, 28 Via Bacchus, Aliso Viejo, CA 92656, US,
  LEBLANC Laurence G, 3735 Rimrock Road, York, PA 17402, US,
  SOWELL Timothy, 26561 Rancho Parkway South, Lake Forest, CA 92630, US,
  ERICKSON Brian, 6305 E. Eliot Street, Long Beach, CA 90803, US,
  MODY Pankaj H, 15 Phaedra, Laguna Niguel, CA 92677, US,
Legal Representative:
  JOY Mark (et al) (agent), Leydig, Voit & Mayer, Ltd., Two Prudential
    Plaza, Suite 4900, 180 North Stetson, Chicago, IL 60601-6780, US,
Patent and Priority Information (Country, Number, Date):
  Patent: WO 200301343 A2-A3 20030103 (WO 0301343)
  Application: WO 2002US20191 20020624 (PCT/WO US0220191)
  Priority Application: US 2001300363 20010622; US 2001300157 20010622
Designated States:
(Protection type is "patent" unless otherwise stated - for applications
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  DE
  (EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
Publication Language: English
Filing Language: English
Fulltext Word Count: 18128

SUPERVISORY PROCESS CONTROL **AND MANUFACTURING INFORMATION SYSTEM**
    APPLICATION HAVING AN EXTENSIBLE COMPONENT MODEL
Fulltext Availability:
  Detailed Description

English Abstract
  A template-based supervisory **process control** and manufacturing
  information application development facility is disclosed that includes a
  number of time-saving application development tools that significantly
  enhance design productivity and allow re-using of previously **developed
  application building** blocks. The development facility includes an
  application **object** template **library** that stores a set of previously
  defined application **object** template **library** that stores a set of
  previously defined application object templates. The template library is
  accessed...

Detailed Description
... needs.

  SUMMARY OF THE INVENTION
  In accordance with the present invention, a template-based supervisory
process control and manufacturing information application development
facility includes a number of timesaving application development tools
that significantly enhance design productivity and allow re-using of
previously **developed application building** blocks. The development

facility includes an application **object** template **library** that stores a set of previously defined application **object** templates. The template **library** is accessed by developers through a configuration utility that facilitates specifying instances of the set...applications is carried out via an Integrated Development Environment (IDE) 127 that communicates with the **database** server 122 via distributed .

component **object** model (DCOM) protocols. The IDE is a utility from which application objects are configured and deployed to the **application** server PCs 100 and 102. **Developers** of a supervisory **process** **control** and manufacturing inforination application, through the IDE, carry out a wide variety of system design...·

12/3,K/33   (Item 33 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00971349   **Image available**
A   PROCESS   CONTROL   **SCRIPT DEVELOPMENT AND EXECUTION FACILITY SUPPORTING MULTIPLE USER-SIDE PROGRAMMING LANGUAGES**
SYSTEME DE CREATION ET D'EXECUTION DE SCRIPTS DE COMMANDE DE PROCESSUS PRENANT   EN CHARGE DES LANGAGES DE PROGRAMMATION MULTIPLES COTE UTILISATEUR
Patent Applicant/Assignee:
  WONDERWARE CORPORATION, 100 Technology Drive, Irvine, CA 92618, US, US (Residence), US (Nationality)
Inventor(s):
  CLINTON Greg C, 21092 Whitebark, Mission Viejo, CA 92692, US,
Legal Representative:
  JOY Mark (et al) (agent), Leydig, Voit & Mayer, Ltd., Two Prudential Plaza, Suite 4900, 180 North Stetson, Chicago, IL 60601-6780, US,
Patent and Priority Information (Country, Number, Date):
  Patent: WO 200301365 A1 20030103 (WO 0301365)
  Application: WO 2002US19863 20020624 (PCT/WO US0219863)
  Priority Application: US 2001300363 20010622; US 2001300157 20010622; US 2001300400 20010622
Designated States:
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  DE
  (EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR .
Publication Language: English
Filing Language: English
Fulltext Word Count: 10339

A   PROCESS   CONTROL   **SCRIPT DEVELOPMENT AND EXECUTION FACILITY SUPPORTING MULTIPLE USER-SIDE PROGRAMMING LANGUAGES**
Fulltext Availability:
  Detailed Description

English Abstract
  A supervisory **process** **control** and manufacturing information application development and execution system (FIG. 1) is disclosed that supports the...

Detailed Description
... applications is carried out via an Integrated Development Environment (IDE) 127 that communicates with the **database** server 122 via distributed component **object** model (DCOM) protocols. The IDE is a utility from which application objects are configured and deployed to the **application** server PCs 100 and 102. **Developers** of a supervisory **process** **control** and manufacturing information application, through the IDE, carry out a wide variety of system design...

12/3,K/35   (Item 35 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00571491   **Image available**
TIMEOUT OBJECT FOR OBJECT-ORIENTED, REAL-TIME PROCESS CONTROL **SYSTEM AND METHOD OF OPERATION THEREOF**
OBJET DE TEMPORISATION DESTINE A UN SYSTEME DE COMMANDE DE PROCESSUS EN TEMPS REEL, ORIENTE OBJET, ET PROCEDE DE FONCTIONNEMENT ASSOCIE
Patent Applicant/Assignee:
  HONEYWELL INC,
Inventor(s):
  CLARKE Thomas A,
  HAWKINSON Ellen B,
  KAAKANI Ziad M,
  THOMAS Christian R,
Patent and Priority Information (Country, Number, Date):
  Patent: WO 200034864 A2 20000615 (WO 0034864)
  Application: WO 99US27659 19991122 (PCT/WO US9927659)
  Priority Application: US 98205769 19981204
Designated States:
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prior to 2004)
  CA JP AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
Publication Language: English
Fulltext Word Count: 4942

TIMEOUT OBJECT FOR OBJECT-ORIENTED, REAL-TIME PROCESS CONTROL **SYSTEM AND METHOD OF OPERATION THEREOF**
Fulltext Availability:
  Detailed Description

English Abstract
  ...a resource, a timeout object, a method of operating the same and a
  real-time **process control** system employing the timeout object or the
  method. In one embodiment, the timeout object includes...

Detailed Description
... requests.

  The historical processor software 222 collects and processes historical
  information about the real-time **process control** system I 00. The
  historical processor software 222 also performs archival **functions** and
  stores information to the **database** software 240.

  The report processor **software** 224 **generates** the reports for the
  real-time **process control** system 100. The report processor software
  224 sends the generated reports to the operator display...

12/3,K/38   (Item 38 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00445872   **Image available**
SYSTEM FOR ASSISTING CONFIGURING A PROCESS CONTROL **ENVIRONMENT**
SYSTEME D'AIDE A LA CONFIGURATION D'UN ENVIRONNEMENT DE GESTION DE PROCESSUS INDUSTRIELS
Patent Applicant/Assignee:
  FISHER-ROSEMOUNT SYSTEMS INC,
Inventor(s):
  DOVE Andrew P,
Patent and Priority Information (Country, Number, Date):
  Patent: WO 9836336 A1 19980820

Application: WO 98US1571 19980206 (PCT/WO US9801571)
Priority Application: US 97799966 19970214
Designated States:
(Protection type is "patent" unless otherwise stated - for applications
prior to 2004)
AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM
GW HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX
NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZW GH GM
KE LS MW SD SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH DE DK ES FI FR
GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN ML MR NE SN TD TG
Publication Language: English
Fulltext Word Count: 11500

SYSTEM FOR ASSISTING CONFIGURING A PROCESS   CONTROL   **ENVIRONMENT**
Fulltext Availability:
  Detailed Description

English Abstract
  A configuration assistant system is disclosed which guides a user
  through configuring a **process   control** environment via a sequence of
  screen presentations. The configuration assistant system advantageously
  enables a **process   control** designer or user to quickly and easily
  configure a **process   control** environment. The screen presentations may
  be contained within a plurality of instructional sections to further
  assist the **process   control** designer in configuring the **process
  control** environment.

Detailed Description
... create different views for the operator, engineer, etc. by selecting
  one of a plurality of **function** blocks from the **library** for use in
  defining a **process   control** solution rather than having to **develop** a
  completely new **program** in Fortran, for example.
  SUBSTITUTE SHEET (RULE 26)
  A group of standardized functions, each designated...

...be stored in a control library. A designer equipped with such a library
  can design **process   control** solutions by interconnecting, on a
  computer display screen, various functions or elements selected with the
  ...

 12/3,K/39   (Item 39 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00445871   **Image available**
 PROCESS   CONTROL   **SYSTEM USING A LAYERED-HIERARCHY CONTROL STRATEGY
    DISTRIBUTED INTO MULTIPLE CONTROL DEVICES**
**SYSTEME DE GESTION DE PROCESSUS INDUSTRIELS UTILISANT UNE STRATEGIE DE
    GESTION A HIERARCHIE EN COUCHES REPARTIE DANS DES DISPOSITIFS DE
    COMMANDE MULTIPLES**
Patent Applicant/Assignee:
  FISHER-ROSEMOUNT SYSTEMS INC,
Inventor(s):
  NIXON Mark,
  HAVEKOST Robert B,
  JUNDT Larry O,
  STEVENSON Dennis,
  OTT Michael G,
  WEBB Arthur,
  LUCAS Mike,
  HOFFMASTER James,
  OTTENBACHER Ron,
  BEOUGHTER Ken J,
  FALTESEK Roy,

KRIVOSHEIN Ken D,
SHEPARD John R,
CHRISTENSEN Dan D,
SCHLEISS Duncan,
Patent and Priority Information (Country, Number, Date):
  Patent: WO 9836335 A2 19980820
  Application: WO 98US1573 19980206 (PCT/WO US9801573)
  Priority Application: US 97799966 19970214
Designated States:
(Protection type is "patent" unless otherwise stated - for applications
prior to 2004)
  AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM
  GW HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX
  NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZW GH GM
  KE LS MW SD SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH DE DK ES FI FR
  GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN ML MR NE SN TD TG
Publication Language: English
Fulltext Word Count: 49539

  PROCESS   CONTROL   **SYSTEM USING A LAYERED-HIERARCHY CONTROL STRATEGY
     DISTRIBUTED INTO MULTIPLE CONTROL DEVICES**
Fulltext Availability:
  Detailed Description

English Abstract
  ...downloaded portions of the overall strategy independently of other
  portions of the control stategy. The **process control** system includes
  a diagnostic monitoring and display functionality for viewing, in a
  coherent manner, diagnostic...

  ...a network of a digital device that is not included in the predetermined
  configuration. The **process control** system includes a user interface
  (300) which supports multiple IEC-1131 standard control languages and...

  ...Blocks, Sequential Function Charts, Ladder Logic and Structural Text, to
  implement a control strategy. The **process control** system includes an
  alarm and event monitoring and display system for which various users of
  ...

Detailed Description
  ...   create different views for the operator, engineer, etc. by selecting
  one of a plurality of **function** blocks from the **library** for use in
  defining a **process control** solution rather than having to **develop** a
  completely new **program** in Fortran, for example.

  A group of standardized functions, each designated by an associated
  function...

  ...be stored in a control library. A designer equipped with such a library
  can design **process control** solutions by interconnecting, on a
  computer display screen, various functions or elements selected with the
  ...

  12/3,K/40   **(Item 40 from file: 349)**
DIALOG(R)File 349:PCT FULLTEXT
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00415592   **Image available**
SYSTEM AND METHOD FOR MATERIALS PROCESS   CONTROL
SYSTEME ET PROCEDE SERVANT A COMMANDER LE TRAITEMENT DE MATERIAUX
Patent Applicant/Assignee:
  THE UNITED STATES OF AMERICA represented by THE SECRETARY OF AGRICULTURE,

Inventor(s):

SYSTEM AND METHOD FOR MATERIALS PROCESS   CONTROL
Fulltext Availability:
   Detailed Description

Detailed Description
...   model 1020, algorithmic rather
   than tabular transition functions are used. The optimum machine
   sequences are **generated** by the **algorithms** , rather than being
   stored in a **table** . As such, a gin configuration **file** is not used
   in this preferred embodiment of **process   control** decision and
   measurement program 1010.

   The attached preferred embodiment of **program** 1010 is **written**
   in the C programming language, and contains a total of 20 files.